ORDER NO. AVS88052095C8 45

Service Manual

5″ Viewfinder
WV-VF65B

Remote Control Unit
WV-RC36

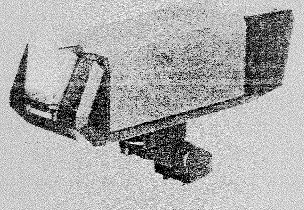
VTR Cable
WV-CA32A/14

S-VHS Cable
WV-CA38

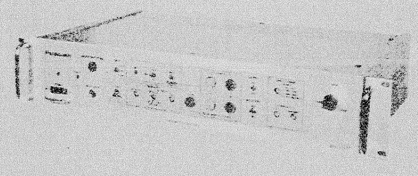
Lens Connector Conversion Cable
WV-LC10

Carring Case
WV-CC37

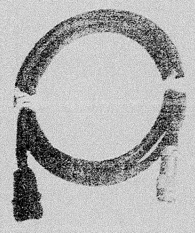
Carring Case
WV-CC38



WV-VF65B



WV-RC36



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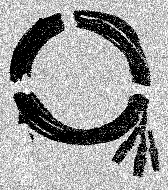

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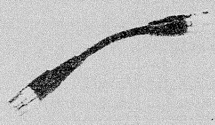

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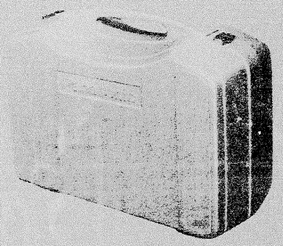

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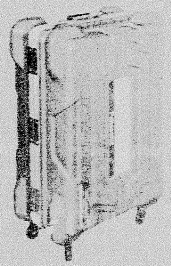


WV-CC38

CONTENTS

SPECIFICATIONS 2
MAJOR OPERATING CONTROLS .... 3 ~ 6

CIRCUIT DESCRIPTION

  5″ VIEWFINDER WV-VF65B 7, 8
  REMOTE CONTROL UNIT WV-RC36 .... 9 ~ 12

ADJUSTMENT PROCEDURE

1. DISASSEMBLING PROCEDURE FOR ADJUSTMENT

  5″ VIEWFINDER WV-VF65B 13
  REMOTE CONTROL UNIT WV-RC36 13

2. ADJUSTMENT PROCEDURE

  5″ VIEWFINDER WV-VF65B .... 13 ~ 15
  REMOTE CONTROL UNIT WV-RC36 .... 16 ~ 18
CHIP COMPONENTS 19, 20
LOCATION OF TEST POINTS AND ADJUSTING CONTROLS 21, 22
CABLE INFORMATION .... 23 ~ 27

BLOCK DIAGRAM

  REMOTE CONTROL UNIT WV-RC36 29
  5″ VIEWFINDER WV-VF65B 28

SCHEMATIC DIAGRAM

  REMOTE CONTROL UNIT WV-RC36 30
  5″ VIEWFINDER WV-VF65B 34

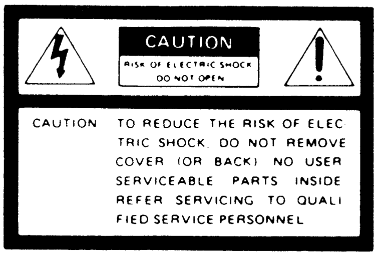
CONDUCTOR VIEW

  REMOTE CONTROL UNIT WV-RC36 33
  5″ VIEWFINDER WV-VF65B 35
EXPLODED VIEW and PACKAGING .... 36 ~ 40
REPLACEMENT PARTS LIST 41

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

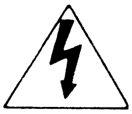
SAFETY PRECAUTION



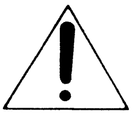
CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol warns the user that uninsulated voltage within the unit may have suificient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included.
Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are shaded on the schematic diagram and indicate with " ⚠ " mark on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards.
Do not modify the original design without permission of manufacturer.

SPECIFICATIONS

5" Electronic Viewfinder WV-VF65B

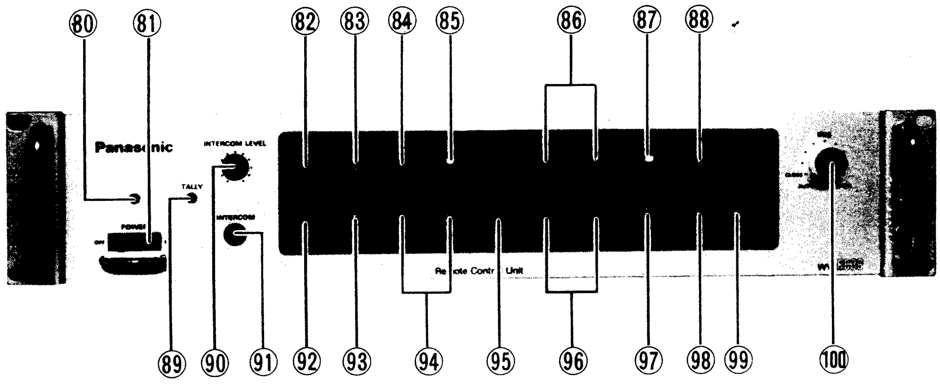
Visual size (underscan):	4.5" actual visual size, measured diagonally	
Power source:	+12V DC (Supplied from camera head)	
Power consumption:	13.2 watts (12 V DC, 1.1 A)	
Horizontal resolution:	500 lines at center	
Switches:	Tally ON/OFF, Peaking ON/OFF	
Controls:	Contrast, Brighteness	
Display:	PAL signal	
Indicator:	Level Indicator (Zebra pattern) Tally Indicator Tally Lamp	
Dimensions:	156(W) x 213(H) x 362(D) mm	
Weight:	2.85 kg	
Standard accessories:	Viewfinder Mounting Angle	1 pc
	Viewfinder Mounting Base	1 pc
	Viewfinder Connector Conversion Cable	1 pc
	Tally Card	1 set

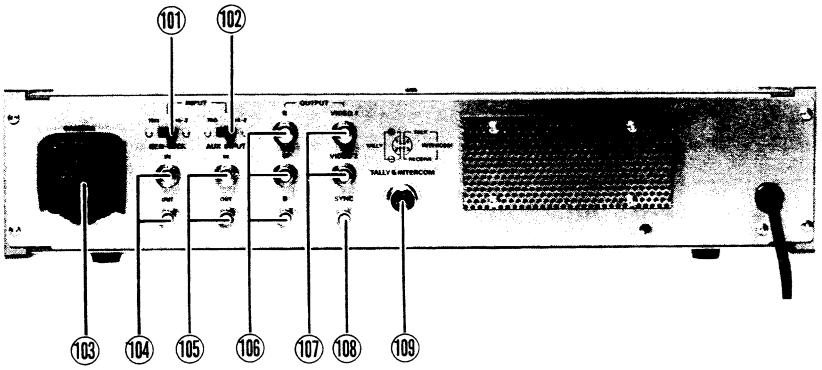
Remote Control Unit (RCU) WV-RC36

Power Source :	WV-RC36/A, WV-RC36/B : 240V AC, 50Hz, 73W WV-RC36/C, WV-RC36/G : 220V AC, 50Hz, 73W
Power Supply :	12V-17V DC, for camera head
Video Input :	1.0V p-p PAL composite/75 ohms (32-pin camera connector)
Video Output :	1.0V p-p PAL composite/75 ohms x 2 (BNC connectors)
Red Video Output :	Non-composite/75 ohms x 1 (BNC connector)
Green Video Output :	Non-composite/75 ohms x 1 (BNC connector)
Blue Video Output :	Non-composite/75 ohms x 1 (BNC connector)
Gen-Lock Input :	1.0V p-p PAL composite or black burst signal/75 ohms or Hi-Z looping through x 1 (BNC connectors)
Subcarrier Phase for Gen-Lock :	Adjustable more than 360°
Horizontal Phase for Gen-Lock :	Adjustable from -0.5μ sec to $+3.5\mu$ sec
Aux (Line View) Input :	1.0V p-p PAL composite/75 ohms or Hi-Z looping through x 1 (BNC connectors)
Maximum Studio Cable Length :	300 m with cable compensator
Tally & Intercom :	4-pin connector
Switches :	Power, High Gain Selection, Colour Bar/Camera Selection, White/Black Balance Selection, Auto White/Auto Black Set, Detail ON/OFF, Cable Length Compensation, Subcarrier Coarse, Shutter ON/OFF
Controls :	R and B Gain, R and B Pedestal, Total Pedestal, Subcarrier Fine Phase, Horizontal Phase, Luminance Gain Fine, Chroma Gain Fine, Intercom Level, Lens Iris
Ambient Operating Temperature :	$-5°C \sim +45°C$
Ambient Operating Humidity :	30% - 90%
Dimensions :	480 (W) x 88 (H) x 315 (D) mm
Weight (including mounting angle) :	5.6 kg

Weight and dimensions show are approximate.
Specifications are subject to change without notice.

Remote Control Unit (RCU) WV-RC36





80. Power Indicator (Red)
This indicator lights whenever the unit is operated.

81. Power Switch (POWER ON/OFF)
This switch turns on and off the power to the RCU.

82. High Gain Selection Switch (+9 dB/0dB/+18 dB)
Normally set this switch to the 0 dB position. Positions +9 dB and +18 dB increase the video output amplitude for dark scenes and are equivalent to opening the lens iris 1.5 or 3 F-stops, respectively.

83. Auto Warning Indicator (Green) (SET)
This indicator blinks while the white balance or black balance is being automatically set. It goes out once the white and black balances have been correctly set.
This indicator lights when the white or black balance is set improperly. In this case, carry out the automatic setting procedure for white and/or black balance.

84. Auto White/Auto Black Set Switch (AWC/HOLD/ABC)
This switch sets the white balance and black balance automatically as follows:

AWC: This position is used for setting the white balance when the White/Black Selection switch (85) is set to the AUTO position. White balance adjustment is required when "AWC A NG" or "AWC B NG" is displayed in the viewfinder or when the Auto Warning Indicator on the RCU lights.

HOLD: In this position, the white and black balances set at the AWC or ABC position can be held fixed, if so desired, for at least one year.

ABC: This position is used for setting the black balance when the White/Black Selection switch (85) is set to the AUTO position. Black balance adjustment is required when "ABC NG" is displayed in the viewfinder or when the Auto Warning Indicator on the RCU lights.

Note: Since the black balance adjustment always is performed automatically first at 0 dB gain and then at +18 dB gain, the picture will flash in the viewfinder and on the monitor screen while the black balance is being set. This flashing will help inform you of present adjustment.

85. White/Black Balance Selection Switch (AUTO/MANUAL)

This switch is used to select the white balance and black balance modes as follows:

AUTO: The white balance and black balance can be set automatically by pressing the Auto White/Auto Black Set Switch (84).

MANUAL: The white balance and black balance can be adjusted by the Red and Blue Gain Controls (86) and the Red and Blue Pedestal Controls (96).

86. Red and Blue Gain Controls (R GAIN, B GAIN)

These controls are used to manually adjust the white balance.

These controls only work when the White/Black Balance Selection switch (85) is set to the MANUAL position. Turn the controls clockwise to increase the Red and Blue signal levels, and counter-clockwise to decrease the levels.

87. Detail ON/OFF Switch (DETAIL ON/OFF)

When set to ON, the edges of the objects in the picture are enhanced and a sharp picture is reproduced. The sharpness of the picture can be set by the Detail Level Selection Switch ㊲ on the camera.

A softer picture can be obtained by setting this switch to OFF.

Normally this switch should be set to the ON position.

88. Cable Length Compensation Switch (CABLE COMP)

This switch is used to compensate for extensive cable lengths used on the 32-pin studio cable between the camera and RCU.

50 m (150 ft): Use for cable lengths of less than 50 m (150 ft).
100 m (300 ft): Use for cable lengths of 50 — 100 m (150 — 300 ft).
200 m (600 ft): Use for cable lengths of 100 — 200 m (300 — 600 ft).
300 m (1000 ft): Use for cable lengths of 200 — 300 m (600 — 1000 ft).

89. Tally Indicator (Green) (TALLY)

When the RCU is used in conjunction with a Special Effects Generator, the Tally Light on the front of the viewfinder, the Tally Indicator inside the viewfinder as well as this indicator on the RCU will light to indicate that recording is in progress.

90. Intercom Level Control (INTERCOM LEVEL)

Use this control to freely adjust the volume level in the headset connected to the Intercom Jack (91).

91. Intercom Jack (INTERCOM)

This jack is used for communication between the camera operator and RCU operator in a system configuration with a Special Effects Generator.

92. Colour Bar/Camera Selection Switch (BAR/CAMERA)

In a system configuration, this switch is used for signal selection between camera mode and colour bar mode.

BAR: An EBU colour bar is provided from the Video Output connector (107) on the RCU.

CAMERA: The actual picture as picked up through the lens is displayed.

93. Horizontal Phase Control for Gen-lock (H PHASE)

The horizontal phase of the camera signal can be adjusted to match the horizontal phase of the signal at the Gen-lock Input connector (104) .

94. Subcarrier Phase Coarse and Fine Controls (SC PHASE COARSE/FINE)

These controls allow adjustment of the camera signal subcarrier phase from 0° to 360°, to match the phase with that of the burst signal at the Gen-lock Input Connector (104) in a system configuration.

The COARSE control adjusts the subcarrier phase from 0° to 360° in 90° steps, while the FINE control allows continuous fine adjustment over a range of 90°.

95. Total Pedestal Level Control (TOTAL PEDESTAL)

This control can adjust the pedestal level of the video signal (luminance) for matching the black level between two or more cameras in a system. Turn this control clockwise to increase the pedestal level, and counter-clockwise to decrease the level.

96. Red and Blue Pedestal Level Controls (R & B PEDESTAL)

The black balance can be set manually by these controls when the White/Black Balance Selection switch (85) is set to the MANUAL position. Turn these controls clockwise to increase the Red and Blue pedestal levels, and counter-clockwise to decrease the levels.

97. Electronic Shutter ON/OFF Switch (SHUTTER ON/OFF)

This switch is operative only when a camera featuring the electronic shutter is connected with the RCU.

Fast-moving objects shot at slow shutter speeds, such as is only possible on normal cameras, will appear blurred. This camera, however, which features an electronic shutter can be switched ON and OFF by this switch, and enables blur-free recording of high-speed action, such as car racing, golf swings, gymnastics, birds in flight, and much more.

OFF: Normal recording with standard shutter speeds.

ON: The electronic shutter mode is engaged for blur-free recording of high-speed action. The electronic shutter speed can be set by the Shutter Speed Selection switch on the camera.

Note: The WV-F200E camera does not feature the electronic shutter.

98. Luminance Gain Fine Control (Y ADJUST)
This control allows fine adjustment of the video luminance signal level for matching the levels of all cameras in the system. Adjust this control only after having set the Cable Length Compensation switch (88) to the correct position.

99. Chroma Gain Fine Control (CHROMA ADJUST)
This control allows fine control of the chroma signal level for matching the chroma levels of all cameras in the system. Adjust this control only after having set the Cable Length Compensation switch (88) to the correct position.

100. Lens Iris Control (IRIS; AUTO-CLOSE/OPEN)
This control is used to set the lens iris of the auto iris servo control zoom lens.

AUTO:	The iris level of the zoom lens is controlled automatically.
CLOSE/OPEN:	The iris level of the zoom lens can be manually controlled by turning this control.
Note:	The Iris Control Selection switch (62) on the lens should be set to the A (Auto) position to enable control of the lens iris from the RCU.

101. Gen-lock Input Termination Switch (75Ω/Hi-Z)
When bridging or looping through the gen-lock signal, set this switch to the Hi-Z position. At all other times, the switch should be set to the 75Ω position.

102. Auxiliary Input Termination Switch (75Ω/Hi-Z)
When bridging or looping through the auxiliary signal, set this switch to the Hi-Z position. At all other times, the switch should be set to the 75Ω position.

103. 32-pin Camera Connector (CAMERA)
Connect the 32-pin studio cable from the camera to this connector.

104. Gen-lock Input Connectors (BNC) (GEN-LOCK INPUT)
These connectors receive the gen-lock signal (black burst or composite) from the Special Effects Generator for system reference.
Two connectors are provided for either bridging or looping application.

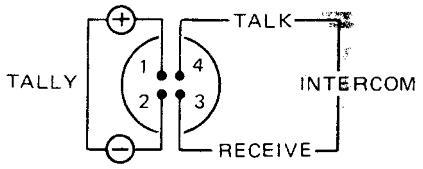
105. Auxiliary Input Connectors (BNC) (AUX INPUT)
These connectors receive the lineview signal from the Special Effects Generator. Two connectors are provided for bridging or looping application.

106. Red, Green and Blue Output Connectors (BNC) (RGB OUTPUT)
These connectors supply a non-composite RGB output signal for chroma keying or an RGB Colour Video Monitor.
To obtain Y/C output, refer to qualified service personnel.

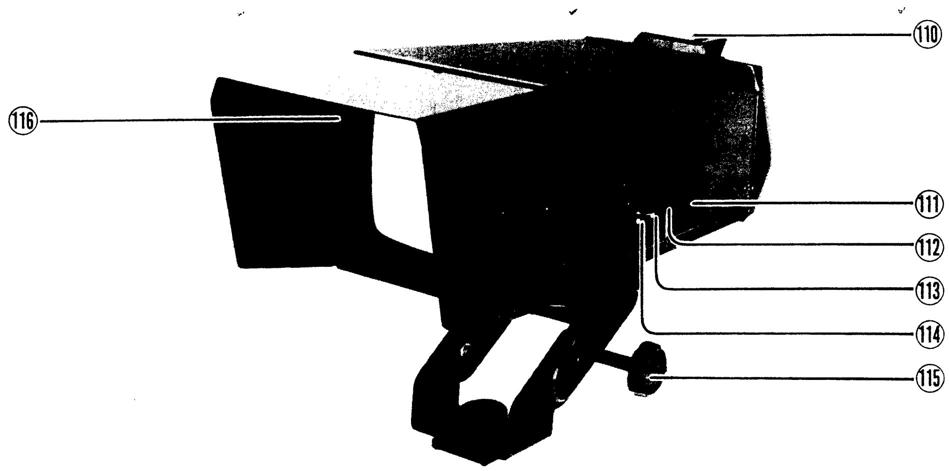
107. Video Output Connectors (BNC) (VIDEO 1, 2 OUTPUT)
These connectors supply a composite video signal to the Special Effects Generator, the Video Monitor or the VTR.

108. Sync Output Connector (BNC) (SYNC OUTPUT)
This connector supplies a negative 4Vp-p/75Ω sync signal to the Sync Input of the RGB Colour Video Monitor for synchronization.

109. Tally and Intercom Input Connector (TALLY & INTERCOM)
Connect the 4-pin cable between this connector and the Tally & Intercom output of the Special Effects Generator.



5" Electronic Viewfinder WV-VF65BE



110. Tally Light
This light only works when the camera is used in full system operation with the RCU and Special Effects Generator. The Tally light indicates that recording is in progress.

111. Contrast Control (CONTRAST)
Turn this control clockwise to increase the contrast of the picture in the viewfinder.

112. Brightness Control (BRIGHT)
Turn this control clockwise to increase the brightness of the picture in the viewfinder.

113. Tally ON/OFF Switch (TALLY ON/OFF)
This switch turns ON/OFF the Tally light (110) located on front of the viewfinder.

114. Peaking ON/OFF Switch (PEAKING ON/OFF)
Normally this switch should be set to OFF.
However, when shooting under low light conditions, setting this switch to ON, will facilitate easy focusing adjustment.

115. Viewfinder Adjustment Knob
The angle of the 5" viewfinder can be adjusted for easy, and comfortable viewing.

116. Tally Indicator
When used in full system operation with the RCU and Special Effects Generator, this indicator shows the camera operator that recording is in progress and the recorded signal is being sent to the line output.

CIRCUIT DESCRIPTION

1. 5" Viewfinder WV-VF65B

1-1 +12V DC, +9V DC Regulator Circuit

The +12V DC power from the camera head is applied and pin 3 of Cn1 to the emitter of Q5, Q6 and pin 1 of IC1 respectively. Approx. 120KHz triangular signal is also generated in triangle oscillator (OSC) inside IC1 and fed to the switching amplifier inside IC1.
The frequency of triangle oscillator (OSC) is set by VR2 (SWITCHING FREQ. ADJ).

o **+12V Regulator**
The reference +5V DC voltage supplied to pin 11 of IC1 and +12V output DC supplied to pin 10 of IC1 are compared by the differential amplifier inside IC1. The error output DC voltage corresponding to the +12V DC voltage error and triangular signal supplied from triangle OSC are compared by the comparator amplifier and the switching pulse output whose width is controlled by the error DC voltage appears at pin 9 of IC1.
This switching pulse is applied to the base of switching transistor Q6 switching ON and OFF Q6 through buffer Q1 and Q2.
As a result, the DC voltage whose level is set by the switching pulse width (pulse duty) is obtained at the output of switching regulator circuit consisting of Q6, D2 and L4.
The generated DC voltage is fed back to pin 10 of IC1 through VR2 to maintain constant output voltage.
VR2 (+12V ADJ) is a control for +12V output voltage.
The regulated +12V is then supplied to other circuit as a power through the filters consisting of L4/C9 and L5/C10.

o **+9V Regulator**
The reference DC voltage supplied to pin 4 of IC1 whose level is set by VR1 (+9V ADJ) and +9V output DC supplied to pin 5 of IC1 are compared by the differential amplifier inside IC1. The error output DC voltage corresponding to the +9V DC voltage error and triangular signal supplied from triangle OSC are compared by the comparator amplifier and the switching pulse output whose width is controlled by the error DC voltage appears at pin 7 of IC1.
This switching pulse is applied to the base of switching transistor Q5 switching ON and OFF Q5 through buffer Q3 and Q4.
As a result, the DC voltage whose level is set by the switching pulse width (pulse duty) is obtained at the output of switching regulator circuit consisting of Q5, D1 and L2.
The generated DC voltage is fed back to pin 5 of IC1 to maintain constant output voltage.
The regulated +9V is then supplied to other circuits as a power through the filters consisting of L2/C6 and L3/C7.

When the camera is used STANDBY position, High (H) level is fed to the base of Q9 and turns ON Q9. DC output from +9V DC regulator IC1 is cut off.

1-2 Video Amplifier Circuit

The video signal at pin 1 of CN2 is fed to amplifier Q2 and Q3 through buffer Q1 and VR1 (CONTRAST). The amplified video signal at the collector of Q3 is sent through buffer Q4, D2 and D1 to the emitter of amplifier Q6. The vertical (V) sawtooth signal is supplied from the V deflection circuit to the base of switching amplifier Q5 to generate the V blanking (BL) pulse.
the V BL pulse at the collector of Q5 is mixed with the video signal for eliminating the vertical retrace line on the CRT screen.
The amplified video signal which is mixed with the level indicator signal and the V BL pulse is applied from the collector of Q6 through L2/R23 and pin 3 of CN4 to grid-1 of CRT.
The voltage which is set by VR2 (BRIGHT) and VR3 (SUBBRIGHT) is fed through buffer Q7, D4 and pin 4 of CN4 to cathode (K) of CRT to set the brightness of CRT screen. The flyback pulse sent from the high voltage circuit through pin 2 of CN3 to D5 is mixed with brightness-controlled DC voltage and supplied to cathode (K) to eliminating the horizontal retrace line on the CRT. When SW1 (PEAKING ON/OFF) is set to the ON position, the frequency response at 3MHz portion of video signal is boosted for making focus of picture on the viewfinder easily.

1-3 Sync Separation Circuit

The video signal obtained at the emitter of buffer Q1 in the video amplifier circuit is applied to sync separator Q8 which detects only the sync signal. The sync signal at the collector of Q8 is sent to the horizontal deflection circuit. the separated sync is fed through buffer Q9 to integrator consisting of R38/C20 and R39/C21 where the horizontal (H) sync is removed and only the vertical (V) sync remains. The V sync signal is sent to the vertical deflection circuit through R40 and C25.

1-4 Vertical Deflection Circuit

The positive V sync signal is supplied from the sync separation circuit to V oscillator Q100 as a trigger pulse.
Q100 is a free-running V sawtooth generator using positive feedback and works as follows.
When the power switch is turned ON, potential at the collector of Q100 becomes low (L) momentarily due to discharge of C101 and C102, and then gradually increases with the time constant of R107, VR103 (V SIZE), R106, C101, C102 and R104 (Ⓐ). At the same time, the base voltage of Q100 also increases gradually since the collector potential of

Q100 is fed back to it base through buffer Q101 and VR100 and VR100 (V HOLD). Q100 turned ON when its base potential exceeds the specific level. When Q100 is turned ON, C101 and C102 begin to be discharged, and the trigger signal Ⓓ, which is made by filtering the V deflection signal Ⓒ with R112, C104 and C103, is positively fed back to the base of Q100 in order to keep turning ON Q100 until C101 and C102 are fully discharged.

When C101 and C102 are fully discharged, the base voltage of Q100 becomes L level turning it OFF and C101 and C102 begin to be charged again through R107, VR103. As a result, the V sawtooth signal is kept generating.

When the V sync signal is fed to Q100, Q100 generates the V sawtooth signal whose frequency and phase coincide with the V sync signal.

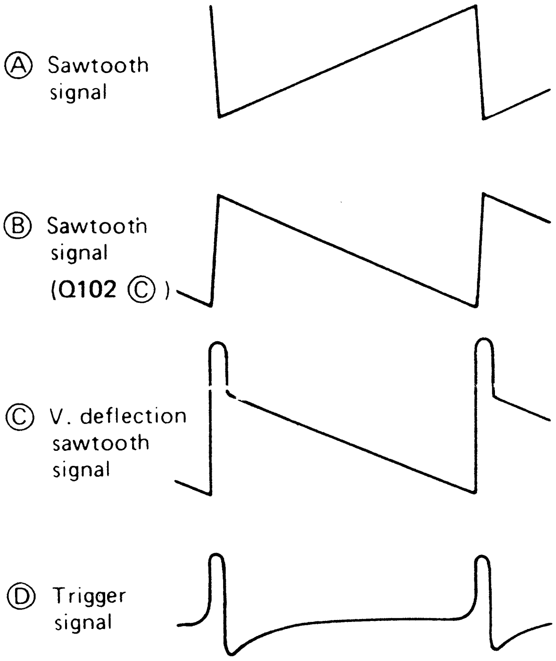


Fig. 1-4-1 Vertical Sawtooth Signal Generation

The V sawtooth signal thus generated is fed through buffer Q101, amplifier Q102, V deflection output Q103/Q104 and pin 3 of CN7 to the V deflection coil.

The V sawtooth signal at the emitter off Q101 is integrated by R109, VR102 (V LIN) and C102 into the V parabola signal and it is fed back to V sawtooth generator Q100 for V linearity correction.

VR100 (V HOLD) is a control for setting the oscillating frequency of Q100 in the steady state.

1-5 Horizontal Deflection Circuit

The horizontal (H) sync signal is supplied from the sync separation circuit through pin 3 of CN5 and pin 1 of IC202 to the phase comparator where the H sync signal is compared in phase with the H sawtooth signal supplied to pin 3 of IC202. The phase difference between two signal is converted into the DC voltage which is sent to the H oscillator to control oscillating frequency. The oscillated pulse is then fed through the H drive circuit and step-up transformer T201 to H deflection output Q206. The H sawtooth current is sent from the emitter of Q206 through the H deflection coil, L4 and L3 (H SIZE) into its collector.

The H flyback pulse at the emitter of Q206 is integrated by R231 and C214 into the V parabola signal, which is sent to the phase comparator. The H flyback pulse is also sent to the high voltage circuit.

1-6 High Voltage Circuit

The flyback pulse generated in the horizontal (H) deflection circuit is supplied to the primary winding of the flyback transformer (FBT) T200 to step up the flyback pulse to necessary level.

The boosted pulses obtained at the secondary winding of FBT are rectified to generate high voltages.

+9kV generated by rectifying the boosted pulse in T200 and obtained at pin A of T200 is fed to the CRT anode.

+390V obtained by rectifying the boosted pulse at pin 5 of T200 with D210 is sent to grid-2 (G2). The voltage which is set by VR203 (FOCUS) is applied to grid-3 (G3). +120V obtained by rectifying the boosted pulse at pin 6 of T200 with D211 is fed to the video amplifier circuit as a power source. The boosted H flyback pulse obtained at pin 6 of T200 is supplied to the video amplifier circuit to make the H BL pulse which eliminates the H retrace line on the CRT screen.

1-7 Tally Indicator Drive Circuit

When the camera is selected in the system using the special effects generator, the high (H) level is sent to switching transistor Q8 to turn ON Q8 and Q7. As a result, +12V is fed to tally lamp PL1 on the front of camera to light it ON. When the SW2 (TALLY ON/OFF) is set to the OFF position, the tally lamp PL1 does not light. At the same time, the high (H) level is fed to switching transistor Q207 to turn ON Q207. Therefore, the collector of Q207 is grounded and the tally LED D213 on the rear of viewfinder lights.

2. Remote Control Unit WV-RC36

2-1 Gen-lock Signal Circuit

The black burst signal Ⓐ supplied to the Gen-lock connector is sent through pin 3 of CN1 and buffer Q1 to sync separator Q2. The separated sync signal Ⓑ obtained at the collector of Q2 is fed through buffer Q3 and VR1 (SYNC BALANCE) to the emitter of buffer Q4 and it is mixed with the black burst signal Ⓐ which comes through Q4. Therefore, the sync signal on the black burst signal is removed and only the burst signal Ⓒ remains. The burst signal at the emitter of Q4 is routed through band pass filter L1/C8, amplifier Q5 and buffer Q6 to the collector of burst gate Q7. VR1 is a control to cancel the sync signal.

The sync signal Ⓑ at the collector of Q2 is fed to 2fH eliminator in IC1, where the equalizing and serration pulses, and the vertical (V) sync component are removed and only the horizontal (H) sync signal remains. The H sync signal is fed to monostable multivibrator and the burst gate pulse Ⓓ is generated at pin 7 of IC1. The burst gate pulse Ⓓ is sent to the base of Q7. VR2 (BURST GATE) is a control to set the phase of the burst gate pulse.

Q7 turns OFF during the negative portion of burst gate pulse D and only the burst signal is gated. The gated burst signal Ⓔ is then fed to phase-splitter Q8. The burst signal at the emitter of Q8 is sent to pins 3 and 11 of SW5 (SC PHASE COARSE SWITCH) and the burst signal at the collector of Q8 is fed through buffer Q9 to pins 1 and 9 of SW5. The selected burst signal at pin 6 of SW5 is routed through 90° phase-shifter Q10 and buffer Q11 to pins 10 and 8 respectively. The burst signal whose phase is shifted 90° in step by SW5 is obtained at pin 7 of SW5. The selected burst signal is sent to another 90° phase shifter Q12 which shifts the phase of burst signal 90° continuously with VR46 (SC PHASE FINE). As a result, the phase of burst signal is shifted 360° by use of SW5 and VR46.

The phase-shifted burst signal Ⓔ is then fed through buffer Q13 to the base of buffer Q14, where it is mixed with the sync signal Ⓕ supplied from the collector of Q2 through inverter IC2 (pins 1-3) and VR4 (SYNC LEVEL), and the black burst signal Ⓖ is made. The black burst signal Ⓖ whose burst phase is shifted 360° is applied through buffer Q14, VR5 (BLACK BURST LEVEL) and amplifier Q15 to black burst output Q16 - Q18. The black burst signal is then fed to the camera through pin 3 of CN2 and pin 22 of 32-pin connector CN41.

VR3 (SC 90° PHASE) is a control to shift the burst phase 90°

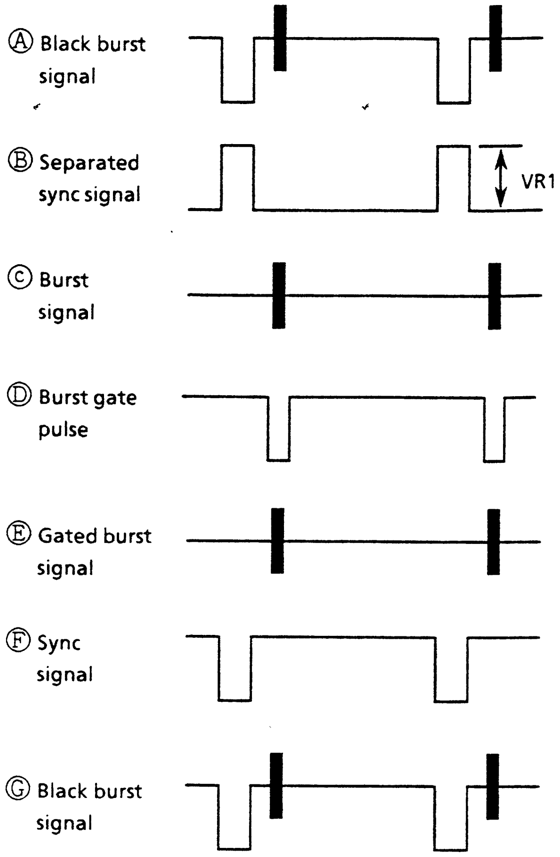


Fig. 2-1-1 Black Burst Signal

2-2 Video Output Circuit

The video signal is fed from the camera through pin 21 of CN41 and pin 3 of CN3 to buffer Q19. The video signal obtained at the emitter of Q19 is routed via VR6 (VIDEO GAIN PRESET) and amplifier Q21 to buffer Q30. The signal at the emitter of Q30 is negatively fed back to the base of amplifier to correct the frequency response. The level and frequency response of feedback signal is selected by SW6 (CABLE LENGTH COMPENSATION) depending upon the camera cable length for the optimum correction. When SW6 is set to the 50m position, base potential of Q25 and Q26 becomes high (H) level turning them ON, and the signal at the emitter of Q30 is fed back through R93/C37, Q26 and R84 to the base of Q21. At the same time, R82 and C31 are connected between the feedback loop and ground through Q25.

When SW6 is set to the 100m, 200m or 300m position, switching transistors operate as shown in the Table below and the level and frequency response of feedback signal are changed.

When SW6 is set to the 200m or 300m position, Q120 or Q20 connected between the emitters of Q19 and Q21 is also turned ON to compensate the frequency response.

Position of SW6	Q22 Q29	Q23 Q28	Q24 Q27	Q25 Q26	Q20	Q120
50m	OFF	OFF	OFF	ON	OFF	OFF
100m	OFF	OFF	ON	OFF	OFF	OFF
200m	OFF	ON	OFF	OFF	OFF	ON
300m	ON	OFF	OFF	OFF	ON	OFF

The frequency-compensated video signal at the emitter of Q30 is fed to the video output circuit of front panel board.

The frequency-compensated video signal is fed from the video output circuit of main board through pin 3 of CN2 to buffer Q5 of video output circuit in the front panel board.

The video signal obtained at the pin 3 of CN2 to buffer Q5 and sync separation circuit of main board through pin 5 of CN2.

The video signal obtained at the emitter of Q5 is routed through VR8 (Y ADJUST) and amplifier Q6 to video output Q7 - Q9.

The video signal at the emitters of Q8/Q9 is sent through pin 7 of CN2 and main board to the video output connectors CN38 and CN39.

2-3 Sync Separation Circuit

The video signal obtained at the emitter of Q4 in the video output circuit of the front panel board is fed through pin 5 of CN2 and buffer Q36 to sync separator Q37. The positive sync signal separated from the video signal and obtained at the collector of Q37 is fed through three inverters IC2 and pin 3 of CN7 to the SYNC output connector CN40.

2-4 R Output Circuit

The R signal is fed from the camera through pin 25 of CN41 and pin 3 of CN4 to buffer Q38. The R signal at the emitter of Q38 is supplied through VR8 (R OUTPUT GAIN PRESET) and amplifier Q40 to buffer Q49.

The signal at the emitter of Q49 is negatively fed back to the base of Q40 to compensate the frequency response of R signal. The level and frequency response of feedback signal is selected by SW6 (CABLE LENGTH COMPENSATION) depending upon the camera cable length for the optimum compensation. When SW6 is set to the 50m position, base potential of Q44 and Q45 becomes high (H) level to turn them ON and the signal at the emitter of Q49 is fed back through R152/C59, Q45 and R143 to the base of Q40. At the same time, R141 and C53 are connected between the feedback loop and ground through Q44.

When SW6 is set to the 100m, 200m or 300m position, switching transistors operate as shown in the Table below and the level and frequency response of feedback signal are changed. When SW6 is set to the 200m or 300m position, Q121 or Q39 connected between the emitters of Q38 and Q40 is also turned ON to compensate the frequency response.

Position of SW6	Q41 Q48	Q42 Q47	Q43 Q46	Q44 Q45	Q39	Q121
50m	OFF	OFF	OFF	ON	OFF	OFF
100m	OFF	OFF	ON	OFF	OFF	OFF
200m	OFF	ON	OFF	OFF	OFF	ON
300m	ON	OFF	OFF	OFF	ON	OFF

The frequency-compensated R signal obtained at the emitter of Q49 is supplied through buffer Q55, VR11 (R OUTPUT GAIN) and amplifier Q56 to R output Q57 - Q59. The R signal at the emitters of Q58/Q59 is sent through pin 3 of CN11 to the R output connector CN35.

2-5 B Output Circuit

The B signal is fed from the camera through pin 27 of CN41 and pin 3 of CN5 to buffer Q60. The B signal at the emitter of Q60 is supplied through VR12 (B OUTPUT GAIN PRESET) and amplifier Q62 to buffer Q71.

The signal at the emitter of Q71 is negatively fed back to the base of Q62 to compensate the frequency response of B signal. The level and frequency response of feedback signal is selected by SW6 (CABLE LENGTH COMPENSATION) depending upon the camera cable length for the optimum compensation. When SW6 is set to the 50m position, base potential of Q66 and Q67 becomes high (H) level to turn them ON and the signal at the emitter of Q71 is fed back through R219/C82, Q67 and R210 to the base of Q62. At the same time, R208 and C76 are connected between the feedback loop and ground through Q66.

When SW6 is set to the 100m, 200m or 300m position, switching transistors operate as shown in the Table below and the level and frequency response of feedback signal are changed. When SW6 is set to the 200m or 300m position, Q122 or Q61 connected between the emitters of Q60 and Q62 is also turned ON to compensate the frequency response.

Position of SW6	Q63 Q70	Q64 Q69	Q65 Q68	Q66 Q67	Q61	Q122
50m	OFF	OFF	OFF	ON	OFF	OFF
100m	OFF	OFF	ON	OFF	OFF	OFF
200m	OFF	ON	OFF	OFF	OFF	ON
300m	ON	OFF	OFF	OFF	ON	OFF

The frequency-compensated B signal obtained at the emitter of IQ71 is supplied through buffer Q77, VR15 (B OUTPUT GAIN) and amplifier Q78 to B output Q79 - Q81. The B signal at the emitters of Q80/Q81 is sent through pin 3 of CN9 to the B output connector CN37.

2-6 G Output Circuit

The G signal is fed from the camera through pin 26 of CN41 and pin 3 of CN6 to buffer Q82. The g signal at the emitter of Q82 is supplied through VR16 (G OUTPUT GAIN PRESET) and amplifier Q84 to buffer Q93.

The signal at the emitter of Q93 is negatively fed back to the base of Q84 to compensate the frequency response of G signal. The level and frequency response of feedback signal is selected by SW6 (CABLE LENGTH COMPENSATION) depending upon the camera cable length for the optimum compensation. When SW6 is set to the 50m position, base potential of Q88 and Q89 becomes high (H) level to turn them ON and the signal at the emitter of Q93 is fed back through R286/C104, Q89 and R227 to the base of Q84. At the same time, R275 and C98 are connected between the feedback loop and ground through Q88.

When SW6 is set to the 100m. 200m or 300m position, switching transistors operate as shown in the Table below and the level and frequency response of feedback signal are changed. When SW6 is set to the 200m or 300m position, Q123 or Q83 connected between the emitters of Q82 and Q84 is also turned ON to compensate the frequency response.

Position of SW6	Q85 Q92	Q86 Q91	Q87 Q90	Q88 Q89	Q123	Q83
50m	OFF	OFF	OFF	ON	OFF	OFF
100m	OFF	OFF	ON	OFF	OFF	OFF
200m	OFF	ON	OFF	OFF	OFF	ON
300m	ON	OFF	OFF	OFF	ON	OFF

The frequency-compensated G signal obtained at the emitter of Q93 is supplied through buffer Q114, VR21 (G OUTPUT GAIN) and amplifier Q115 to G output Q116 - Q118. The G signal at the emitters of Q117/Q118 is sent through pin 3 of CN10 to the G output connector CN36.

2-7 Aux Output Circuit

The lineview signal is fed from the AUX connector CN34/CN35 through pin 3 of CN16 to buffer Q108.

The lineview signal obtained at the emitter of Q108 is fed through VR120 (AUX GAIN) and amplifier Q110 to AUX output Q111 - Q113. The lineview signal at the emitters of Q112/Q113 is fed to the camera via pin 3 of CN17 and pin 23 of CN41. When SW6 (CABLE LENGTH COMPENSATION) is set to the 200m or 300m position, potential at the base of Q109 becomes high (H) level to turn it ON and R413/C123 are connected with R346 and VR20 parallelly to compensate the frequency response of lineview signal.

2-8 Intercom Circuit

The intercom signal supplied to pin 4 of the Tally & Intercom connector CN42 is sent through buffer Q103 to amplifier Q104. The amplified signal at the collector of Q104 is routed through buffer Q105, pin 3 of CN13 and pin 30 of CN41 to the camera.

The signal obtained at the collector of Q104 is applied through pin 2 of CN20, buffer Q106, the Intercom Level Control VR7 of the front panel board and pin 2 of CN19 in the main board to the Intercom Jack CN43. The intercom signal at pin 1 of CN19 is returned through buffer Q107 and pin 2 of CN14 to amplifier pin 3 of IC1 in the front panel board.

The amplified signal at the pin 5 of IC1 is routed through Intercom Selection Switch SW4, pin 2 of CN1 to pin 3 of the Tally & Intercom connector CN42.

2-9 Tally Control Circuit

When the picture of the camera is selected into the line output by the special effects generator in the system, pins 1 and 2 of the Tally & Intercom connector CN42 are connected. The low (L) level at the base of Q101 turns ON Q101 and Q102. Therefore, tally LED D22 on the RCU lights. the high (H) level at the collector of Q101 is sent through pin 7 of CN15 and pin 17 of CN41 to light the tally LED/lamp on the camera.

2-10 + 12V DC Regulator Circuit

Approximately 14V DC which is obtained at the +DC terminal of power board is fed to pin 4 of CN101.
The + 14V DC is fed to the emitter of power transistor Q124. The voltage at the collector of Q124 is fed to pin 5 of +12V DC regulator IC6 through R30 and VR4 (+12V ADJ). The voltage at pin 10 of IC6 controls the base potential of Q124 through Q9. In this way, the voltage at the collector of Q124 is kept constant.
The + 12V is supplied all circuit in the RCU as a power source.

2-11 + 9V DC Regulator Circuit

The regulated +12V is supplied to the emitter of Q5 and the +9V obtained at the collector of Q5 is divided by R17, VR2 (+9V ADJ) and R43 and fed to pin 4 of +9V regulator IC1
The voltage at pin 1 of IC1 controls the base potential of Q5. In this way, the voltage at the collector of Q5 is kept constant. The +9V DC is supplied to serial data transmission circuit consisting of IC2, IC3, IC4 and IC5 as a power source.

2-12 Serial Data Transmission Circuit

Analog signal supplied from R GAIN, B GAIN, R PEDESTAL, B PEDESTAL, TOTAL PEDESTAL and H PHASE and H or L level signal from BAR/CAM, AUTO/MANUAL, AWC/ABC SET are supplied to analog switch IC2 and IC3 respectively.
The microprocessor IC5 instructs the control (selection) pulse to the control terminals ((pin 6, 9, 10, 11) of IC2 and IC3 to select one signal from these control signal (information) and selected signal is supplied from pin 3 of IC2 and IC3 to pin 24 of IC5.
The control signal supplied to pin 5 of IC5 is converted into 8-bit digital signal inside IC5 and sent from pin 5 of IC5 to camera through amplifier Q6 and pin 1 of CN107. At the same time, the serial clock pulse (synchronization pulse for serial data transmission) is generated in IC5 and sent from pin 6 of IC5 to camera through amplifier Q7 and pin 2 of CN107.
IC4 is the reset pulse generator for the microprocessor IC5 and reset pulse obtained at pin 6 of IC4 is supplied to pin 19 of IC5 for initial reset.

ADJUSTMENT PROCEDURE

1.Disassembling Procedure for Adjustment

1-1 5"Viewfinder WV-VF65B

- Remove five screws fixing the upper cover and remove the cover. (Fig. 1-1-1)

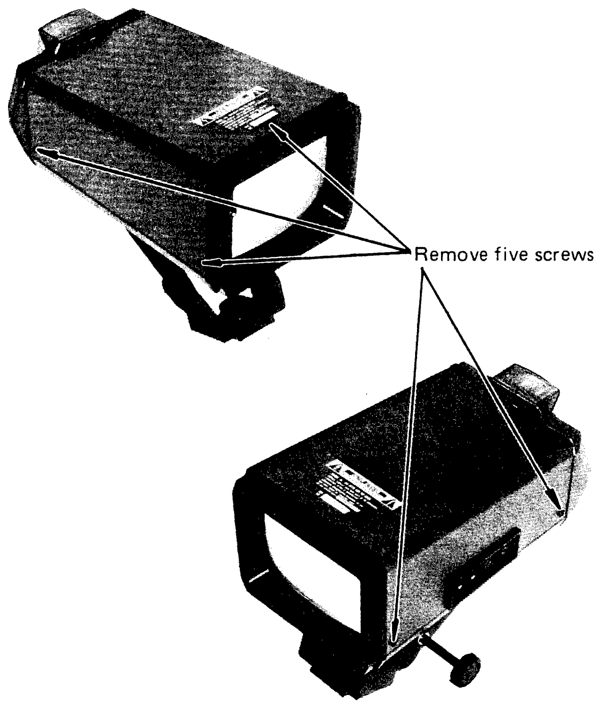


Fig. 1-1-1

1-2 Remote Control Unit WV-RC36

- Remove six screws fixing the upper panel and remove the panel. (Fig. 1-2-1)

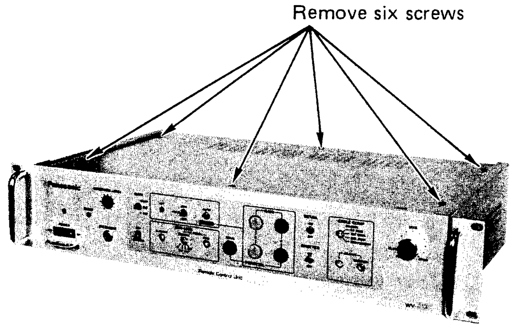


Fig. 1-2-1

2 Adjustment Procedure

2-1 5"Viewfinder WV-VF65B Adjustment

2-1-1 Setting up for adjustment

Position of controls and switches on the camera

(Camera)

Power Switch	VTR /RCU
Filter Wheel	1
High Gain Selection Switch	0dB
AGC Switch	OFF
Colour Bar/Camera Selection Switch	CAMERA
White Balance Switch	PRESET
LEVEL IND ON/OFF SWITCH	OFF

(Lens)

Iris Control Selection Switch	MAN

Set-up

- Turn ON the colour camera for at least 30 minutes prior to adjustment.
- Distance between the camera and test chart should be more than 6 feet (2m).
- Light : 140 footcandles (1400 lux) incident.

2-1-2 5"Viewfinder WV-VF65B

- Refer to page 22 for the test points and adjusting controls.

(1) Switching frequency adjustment

Test point :	**TP1 (SW FREQ.)**	**Power board**
Adjust :	**VR2 (SW FREQ. ADJ)**	**Power board**

- Connect the frequency counter to TP1 (SW FREQ.) on the power board.
- Adjust VR2 (SW FREQ. ADJ) on the power board for 120 .5KHz ± 0.2KHz.

(2) + 12V adjustment

Test points :	**TP2 (+ 12V)**	**Power board**
Adjust :	**VR3 (+ 12V ADJ)**	**Power board**

- Remove the screws fixing the printed circuit boards.(Fig. 2-1-2)

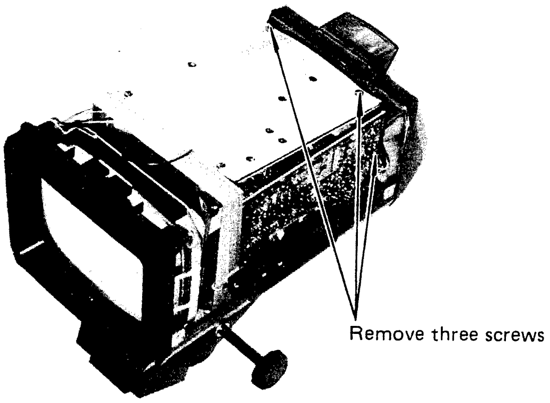

Remove three screws

Fig. 2-1-2

- Lossen two screws holding the front panel (Fig. 2-1-3) and remove the front panel. (Fig. 2-1-4)

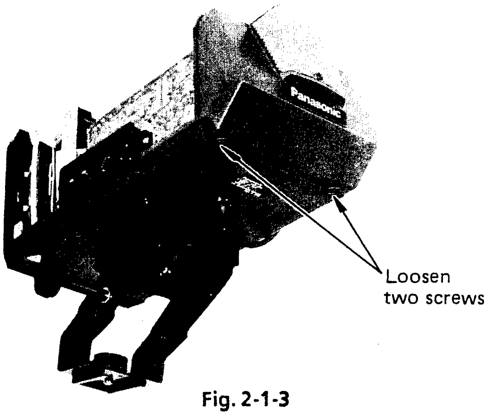

Panasonic
Loosen
two screws

Fig. 2-1-3

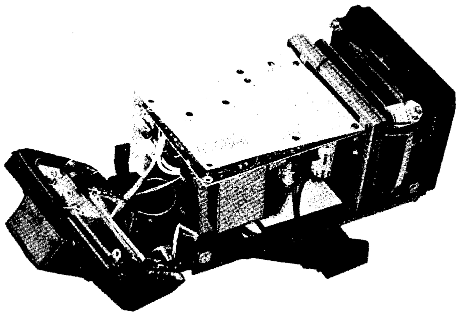


Fig. 2-1-4

- Connect the digtial voltmeter (DVM) to TP2 (+ 12V) on the Power board.
- Adjust VR301 (+ 12V ADJ) for + 12V ± 0.05V.

(3) + 9V adjustment

Test ponts :	**TP3 (+ 9V)**	**Power board**
Adjust :	**VR1 (+ 9V ADJ)**	**Power board**

- Connect the DVM toTP3 (+ 9V) on the Power board.
- Adjust VR1 (+ 9V ADJ) for + 9V ± 0.05V.

(4) Horizontal and vertical hold preset adjustment

Adjusts :	**VR100 (V.HOLD)**	**Deflection board**
	VR202 (H. HOLD)	**Deflection board**

- While observing the viewfinder, adjust VR100 (V HOLD) and VR202 (H HOLD) so that picture in the viewfinder is locked vertically and horizontally.

(5) Centering magnets adjustment

Adjusts :	**L3 (H SIZE)**	**Deflection board**
	VR103 (V SIZE)	**Deflection board**
	Centering magnets	
Observe :	**Viewfinder**	

- Reduce picture size using L3 (H SIZE) and VR103 (V SIZE) so that the entire raster is observed on the viewfinder.
- Cap on the lens or set the filter wheel 4.
- Adjust the centering magnets (See Fig. 2-1-5) so that the raster comes to the center of viewfinder screen.(Fig. 2-1-6)

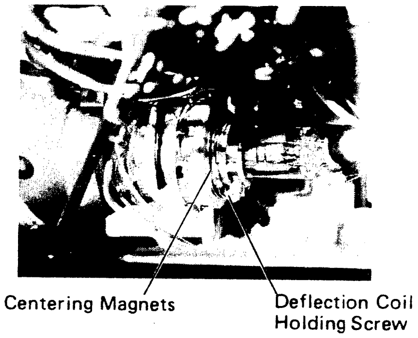

Centering Magnets
Deflection Coil
Holding Screw

Fig. 2-1-5

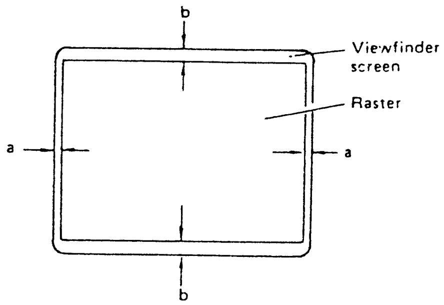

b
Viewfinder
screen
Raster
a
a
b

Fig. 2-1-6

(6) Picture tilt adjustment

Adjust :	**Deflection Coil**
Observe :	**Viewfinder**

- Loosen the deflection coil holding screw. (Fig. 2-1-5)
- Observe the viewfinder and turn the deflection coil so that the image is straight.
- Tighten the deflection coil holding screw.

(7) Horizontal and vertical size, vertical linearity adjustment

Adjusts :	**L3 (H SIZE)**	**Deflection board**
	VR102 (V LIN)	**Deflection board**
	VR103 (V SIZE)	**Deflection board**
Observe :	**Viewfinder**	

- Aim the camera at the registration chart.
- Set VR1 (CONTRAST) and VR2 (BRIGHT) to the optimum position.
- Adjust L3 (H SIZE) so that the horizontal size of raster is 3-3/4 ~ 1/16 (9.5±0.1cm).
- Adjust VR102 (V LIN) and VR103 (V SIZE) repeatedly so that the circle in the chart is as really a true circle as possible.
  Note : If the picture jumps or rolls vertically in this adjustment, readjust VR100 (V HOLD).

(8) horizontal and vertical hold adjustment

Test points :	**Pin 3 of CN4**	**Video amp board**
	Pin 4 of CN4	**Video amp board**
Adjusts :	**VR100 (V HOLD)**	**Deflection board**
	VR202 (H HOLD)	**Deflection board**
Observe :	**Viewfind**	

- While observing the viewfinder, turn VR100 (V HOLD) clockwise and counterclockwise to confirm the vertical hold range of VR100.
- Set VR100 to the mechanical center of its vertical hold range.
- Connect the oscilloscope to pin 3 and pin 4 of CN4.
- Trigger the oscilloscope at H rate .
- Adjust VR202 (H HOLD) so that the leading edge of horizontal blanking pulse at pin 4 coincides with the leading edge of blanking duration at pin 3. (Fig. 2-1-7)
- Turn ON and OFF the power switch and confirm that the picture in the viewfinder is locked horizontally and vertically.
- Confirm that the raster positions at the center of viewfinder screen. If not, readjust (5) Centering magnets adjustment.

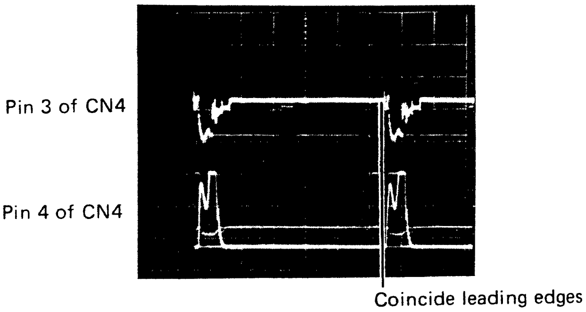


Fig. 2-1-7

(9) Subbright adjustment

Adjusts :	**VR1 (CONTRAST)**	**Video amp board**
	VR2 (BRIGHT)	**Video amp board**
	VR3 (SUBBRIGHT)	**Video amp board**
Observe :	**Viewfinder**	

- Turn VR1 (CONTRAST) and VR2 (BRIGHT) fully counterclockwise.
- Turn VR2 (BRIGHT) about 45° so that the slit of bright control knob positions level. (Fig. 2-1-8)
- Adjust VR3 (SUBBRIGHT) so that the raster just disappears.

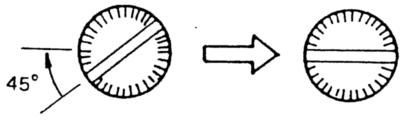


Fig. 2-1-8

(10) Contrast and bright adjustment

Adjusts :	**VR1 (CONTRAST)**	**Video amp board**
	VR2 (BRIGHT)	**Video amp board**
Observe :	**Viewfinder**	

- Aim the camera at the logarithmic gray scale chart.
- While changing the iris from the closed position to F1.4, adjust VR1 (CONTRAST) and VR2 (BRIGHT) so that the black-and -white chip gradations will be the same on the viewfinder as that in the monitor.

(11) Focus Adjustment

Adjust :	**VR203(FOCUS)**	**Deflection board**
Observe :	**Viewfinder**	

- Aim the camera at the resolution chart.
- Adjust VR203 (FOCUS) for best resolution in the viewfinder.

2-2Remote Control Unit (RCU) WV-RC36 Adjustment

- Disassemble the remote control unit (RCU) WV-RC36 while referring to 1-2 Remote Control Unit WV-RC36 on page 13.
- Refer to page 21 for the test points and adjusting controls.

2-2-1 Connection and setting up for adjustment

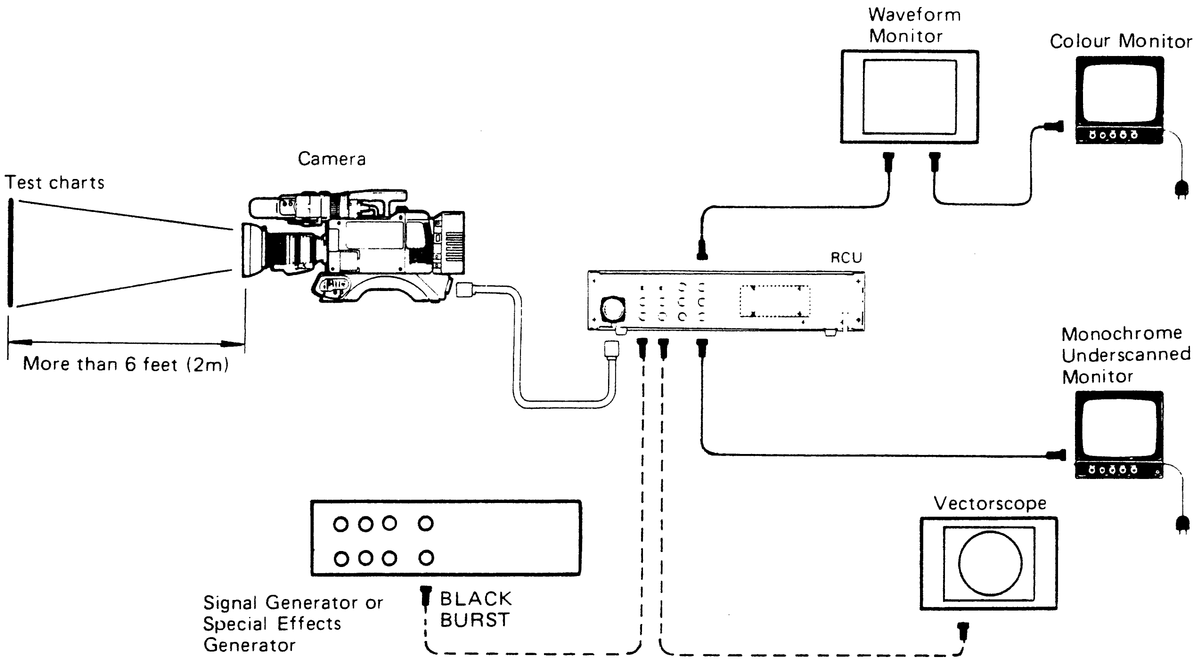

Waveform Monitor
Colour Monitor
Camera
Test charts
RCU
More than 6 feet (2m)
Monochrome Underscanned Monitor
Vectorscope
Signal Generator or Special Effects Generator
BLACK BURST

Fig. 2-2-1

Connection

- Connect the camera and the remote control unit (RCU) using a 25ft 32p camera cable.
- Connect the VIDEO OUT connector on the RCU to the VIDEO IN connector of colour monitor through the waveform monitor using a coaxial cable.
- Terminate the video input of colour video monitor with 75 ohms.
- Connect the PIX OUT connector on the RCU to the VIDEO IN of monochrome underscanned video monitor using a coaxial cable.
- Terminate the video input of monochrome video monitor with 75 ohms.
- Connect the BLACK BURST OUT of special effects generator or signal generator to the GEN-LOCK IN connector of RCU using a coaxial cable when instructed.

- Position of controls and switches on the camera, camera adaptor and RCU.

(Camera)	
Power Switch	ON
High Gain Selection Switch	0 dB
(Lens)	
Iris Control Selection Switch	MAN
(Camera Adaptor)	
Power Selection Switch	VTR / RCU
VTR Video Output Selection Switch	ENC
(RCU)	
Camera / Colour Bar Selection Switch	BAR
Cable Length Compensation Switch	50m (150ft)
Subcarrier Phase Coarse Switch	0°
Subcarrier Phase Fine Control	Fully counter-clockwise
Horizontal Phase Control	Fully counter-clockwise
Gain and Pedestal Controls	Center detent

(1) Microprocessor board

Test point :	**TP1 (+ 9V)**	**Microprocessor board**
	TP2 (+ 4V)	**Microprocessor board**
	TP3 (+ 12V)	**Microprocessor board**
Adjusts :	**VR2 (+ 9V ADJ)**	**Microprocessor board**
	VR3 (+ 4V ADJ)	**Microprocessor board**
	VR4 (+ 12V ADJ)	**Microprocessor board**

- Connect the DVM to TP3 and the ground.
- Adjust + 12V ADJ VR4 for + 12V ± 0.05V.
- Connect the DVM to TP1 and the ground.
- Adjust + 9V ADJ VR2 for + 9V ± 0.05V.
- Connect the DVM to TP2 and the ground.
- Adjust + 4V ADJ VR3 for + 4V ± 0.1V.

(2) Sync balance adjustment

Test point :	**TP3 (SYNC BALANCE)**	**Main board**
Adjust :	**VR1 (SYNC BALANCE)**	**Main board**

- Connect the BLACK BURST OUT of special effects generator or signal generator to the GEN-LOCK IN connector of RCU.
- Connect the oscilloscope to TP3.
- Trigger the oscilloscope at H rate.
- Adjust SYNC BALANCE VR1 to cancel the sync signal. (Fig. 2-2-5)

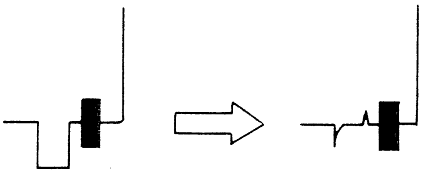


Fig. 2-2-5

(3) Burst gate adjustment

Test point :	**TP1 (GEN-LOCK IN)**	**Main board**
	TP2 (BURST GATE)	**Main board**
Adjust :	**VR2 (BURST GATE)**	**Main board**

- Keep the Black Burst signal connected as in the preceding step.
- Connect the oscilloscope to TP1 and TP2.
- Trigger the oscilloscope at H rate.
- Expand the burst signal portion on the oscilloscope.
- Adjust BURST GATE VR2 so that the leading edge of burst gate pulse at TP2 lags 5μsec ± 0.1μsec the leading edge of sync signal at TP1. (Fig. 2-2-6)

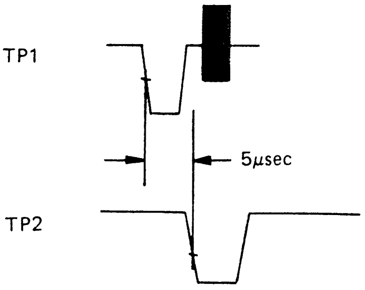


Fig. 2-2-6

(4) Black burst adjustment

Test point :	**TP4 (GEN-LOCK OUT)**	**Main board**
Adjusts :	**VR3 (SC 90° PHASE)**	**Main board**
	VR4 (SYNC LEVEL)	**Main board**
	VR5 (BLACK BURST LEVEL)	**Main board**
Observe :	**Vectorscope**	

- Keep the Black Burst signal connected as in the preceding step.
- Cap on the lens or set the filter wheel to the position 4.
- Set the Camera / Colour Bar Selection Switch on the RCU to CAMERA position.
- Connect the vectorscope to the VIDEO 1 or VIDEO 2 connector and terminate the input of vectorscope with 75ohms.
- Supply an external subcarrier signal to the external subcarrier reference (EXT CW ø REF) connector of vectorscope from the signal generator or special effects generator.
- Set the burst mode (ø REF) of the vectorscope to the EXT position.
- Set SYNC LEVEL VR4 and BLACK BURST LEVEL VR5 to their mechanical center.
- Set the SC PHASE COARSE SWITCH SW5 to the 0° position and turn SC PHASE FINE VR46 fully counterclockwise.
- Turn the phase control of vectorscope so that the burst vector for even field positions at the B-Y (U) axis of vectorscope.
- Set the SC PHASE COARSE SWITCH SW5 to the 90° position.
- Set the SC 90° PHASE VR3 so that the burst vector for even field coincides with the R-Y (V) axis on the vectorscope.
- Reset the COARSE SWITCH SW5 to the 0° position.
- Connect the oscilloscope to TP4.
- Connect the oscilloscope at H rate.
- Adjust BLACK BURST LEVEL VR5 so that the burst level is 0.4Vp-p.
- Adjust SYNC LEVEL VR4 so that sync level is 0.4Vp-p.

(5) Video output adjustment

Test point :	**Pin3 of CN3**	**Main board**
	TP5 (VIDEO OUT)	**Main board**
Adjusts :	**VR6 (VIDEO GAIN PRESET)**	**Main board**

- Keep the Camera / Colour Bar Selection Switch set to the Bar position.
- Connect the oscilloscope to pin 3 of CN3 and TP5.
- Trigger the oscilloscope at H rate.
- Adjust VIDEO GAIN PRESET VR6 so that the colour bar signal levels are equal.

(6) Green output adjustment

Test point :	**TP10(G OUT)**	**Main board**
	Pin 3 of CN6	**Main board**
Adjusts :	**VR16 (G OUTPUT GAIN PRESET)**	**Main board**
	VR21 (G OUTPUT GAIN)	**Main board**

- Set the Camera / Colour Bar Selection Switch to the CAMERA position.
- Aim the camera at the gray scale chart and set the lens iris to F4.
- Connect the oscilloscope to TP10 and pin 3 of CN6.
- Trigger the oscilloscope at H rate.
- Adjust G OUTPUT GAIN PRESET VR16 so that the green signal levels are equal.
- Move the probe of oscilloscope from TP10 to the terminated G OUT connector.
- Adjust G OUTPUT GAIN VR21 so that the green signal levels are equal.

(7) Red output

Test point :	**TP6 (R OUTPUT)**	**Main board**
	Pin 3 of CN4	**Main board**
Adjusts :	**VR8 (R OUTPUT GAIN PRESET)**	**Main board**
	VR11 (R OUTPUT GAIN)	**Main board**

- Keep the Camera / Colour Bar Selection Switch set to the CAMERA position.
- Aim the camera at the gray scale chart and set the lens iris to F4.
- Connect the oscilloscope to TP6 and pin 3 of CN4.
- Trigger the oscilloscope at H rate.
- Adjust R OUTPUT GAIN PRESET VR8 so that the red signal levels are equal.
- Move the probe of oscilloscope from TP6 to the terminated R OUT connector.
- Adjust R OUTPUT GAIN VR11 so that the red signal levels are equal.

(8) Blue output

Test point :	**TP8(B OUTPUT)**	**Main board**
	Pin 3 of CN5	**Main board**
Adjusts :	**VR12 (B OUTPUT GAIN PRESET)**	**Main board**
	VR15 (B OUTPUT GAIN)	**Main board**

- Keep the Camera / Colour Bar Selection Switch set to the CAMERA position.
- Aim the camera at the gray scale chart and set the lens iris to F4.
- Connect the oscilloscope to TP8 and pin 3 of CN5.
- Trigger the oscilloscope at H rate.
- Adjust B OUTPUT GAIN PRESET VR12 so that the blue signal levels are equal.
- Move the probe of oscilloscope from TP8 to the terminated B OUT connector.
- Adjust B OUTPUT GAIN VR15 so that the blue signal levels are equal.

(9) AUX gain adjustment

Test point :	**AUX INPUT connector CN33**	
	TP11 (AUX OUT)	**Main board**
Adjust :	**VR20 (AUX GAIN)**	**Main board**

- Keep the Camera / Colour Bar Selection Switch set to the CAMERA position.
- Aim the camera at the gray scale chart and set the lens iris to F4.
- Connect the VIDEO OUT connector and AUX INPUT connector on the rear of RCU using a coaxial cable.
- Set the AUX input termination switch to the 75 Ω position.
- Connect the oscilloscope to the AUX INPUT connector and TP11.
- Trigger the oscilloscope at H rate.
- Adjust AUX GAIN VR20 so that the signal levels especially the sync signals are equal.
  Note : The signal at TP11 has no chroma signal.

(10) Iris preset adjustment

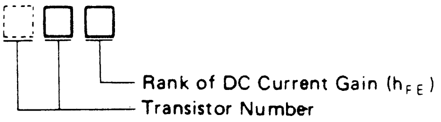
Test point :	**TP13 (IRIS)**	**Main board**
Adjust :	**VR43 (IRIS PRESET)**	**Main board**

- Turn LENS IRIS CONTROL VR44 on the front of RCU fully counterclockwise and stop it just before switched to the AUTO position.
- Connect the digital voltmeter probe to TP13.
- Adjust IRIS PRESET VR43 for + 1.8V.

CHIP COMPONENTS

1. Chip Transistor

The transistor number is indicated on the top surface of the chip transistor using two alphabet letters or one numerical and two alphabet letters.



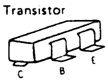
Transistor Number

Letter	Transistor No.	Letter	Transistor No.
A	2SB709	X	2SD602A
B	2SB709A	Y	2SD601
C	2SB710	Z	2SD601A
D	2SB710A	1Z	2SD1030
E	2SA1022	1N	2SK199
F	2SA1034	1O	2SK198
H	2SA1035	1A	2SB799
I	2SB792	1B	2SB814
K	2SC2778	1C	2SB902
P	2SD814	1F	2SK321
Q	2SD813	1L	2SK247
R	2SC2480	1K	2SK316
S	2SC2405	1M	2SJ84
T	2SC2406	1T	2SC3077
U	2SC2404	1X	2SC2845
V	2SC2295	2B	2SK374
W	2SD602	2C	2SK116

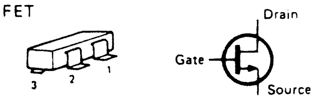
Example

WQ ⟶ 2SD602 – Q
YQ ⟶ 2SD601 – Q
1BS ⟶ 2SB814 – S

Appearance and Symbols



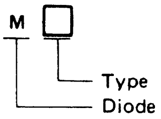
C: Collector
B: Base
E: Emitter



	1	2	3
Except 2SK199	Drain	Source	Gate
2SK199	Gate	Drain	Source

2. Chip Diode

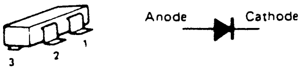
The diode number is indicated on the top surface of the chip diode using Two alphabet letters.



Diode Number

Letter	Diode No.	Letter	Diode No.
MA	MA151A	MI	MA152K
MB	MA152A	MK	MA28W-B
MC	MA153	ML	MA28T-A
MD	MA28-A	MN	MA151WA
ME	MA28-B	MO	MA152WA
MF	MA28W-A	MT	MA151WK
MH	MA151K	MU	MA152WK

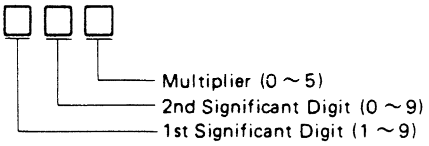
Appearance and Symbols



	1	2	3
MA28/28W/28T	–	Anode	Cathode
MA151K/152K	–	Anode	Cathode
MA151A/152A	–	Cathode	Anode
MA151WK/MA152WK	Anode	Anode	Cathode
MA151WA/MA152WA	Cathode	Cathode	Anode
MA153	Catnode	Anode	Common

3. Chip Resistor

The resistor value is indicated on the bottom surface of the chip resistor using three digit numbers.



EXAMPLE:

330 ⟶ $33 \times 10^0 = 33$ ohms
561 ⟶ $56 \times 10^1 = 560$ ohms
123 ⟶ $12 \times 10^3 = 12$ kohms

Note: Zero ohm resistor (jumper chip) is colored red or green.

4. Chip Capacitor

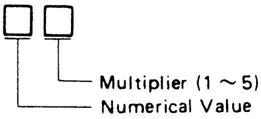
The capacitive value of replacement chip capacitors is indicated on the bottom surface. Original parts do not have value indication.

If the capacitive value is less than 100 pF, the value will be indicated by one or two digit number expressing the capacity directly in pF

EXAMPLE:

0.5	⟶	0.5 pF	2.5	⟶	2.5 pF
75	⟶	0.75 pF	33	⟶	33 pF
1	⟶	1 pF	82	⟶	82 pF

If the capacitive value is 100 pF or greater, the value will be indicated by an alpha-numeric code. The letter precedes the number and expresses a numerical value to be multiplied by the number which follows.



Numerical Value

Letter	Value	Letter	Value
A	10	N	33
B	11	P	36
C	12	Q	39
D	13	R	43
E	15	S	47
F	16	T	51
G	18	U	56
H	20	V	62
J	22	W	68
K	24	X	75
L	27	Y	82
M	30	Z	91

* Letters I and O are not used

EXAMPLE:

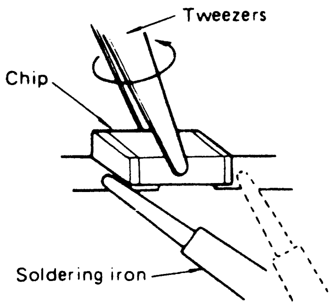
A1 ⟶ $10 \times 10^1 = 100$ pF
N2 ⟶ $33 \times 10^2 = 3300$ pF
S3 ⟶ $47 \times 10^3 = 47000$ pF

4. Precautions in replacing the chip component

1. Make sure that the unit is turned OFF when replacing the chip.
2. Use tweezers to prevent any damage to the chip surface.
3. Do not re-use the chips after removal.
4. Do not rub the electrode of chips.
5. Do not subject the chips to excessive stress.
6. It is recommended that a pencil-type soldering iron to be used.
7. The solder whose diameter is less than 0.5 mm is recommended.
8. Do not heat the chip beyond 3 seconds.
9. Maintain temperature control under 260°C (500°F) when soldering.

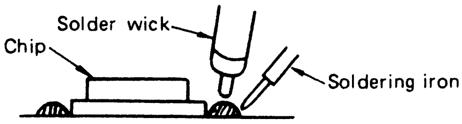
4-1 Removal (Transistor, Diode, Resistor and Capacitor)

1. Add the solder to both ends of the chip (three leads for chip transistor).
2. While attaching the soldering iron to both ends of the chip (three leads for chip transistor) as shown below, remove the chip by turning it with tweezers.
   Note Be careful not to damage other chips.

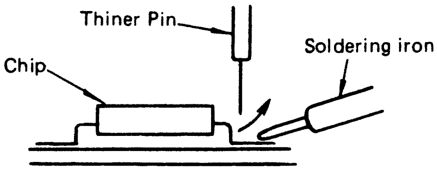

Tweezers
Chip
Soldering iron

4-2 Removal (IC)

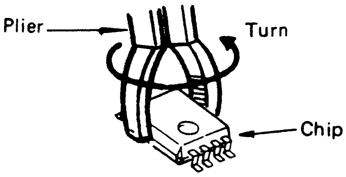
1. Add the solder wick and solder iron to each lead of the IC and remove solder.


Solder wick
Chip
Soldering iron

2. Add the solder iron to each lead of the IC and left each lead of the IC using thiner pin.

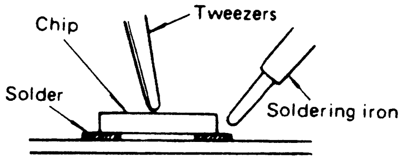

Thiner Pin
Chip
Soldering iron

3. Remove IC turning it with plier.

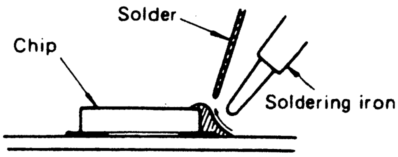

Plier
Turn
Chip

4-3 Mounting

1. Place the solder thinly on the chip mounting foil.
2. Solder the chip temporarily while holding the chip with the tweezers.


Chip
Tweezers
Solder
Soldering iron

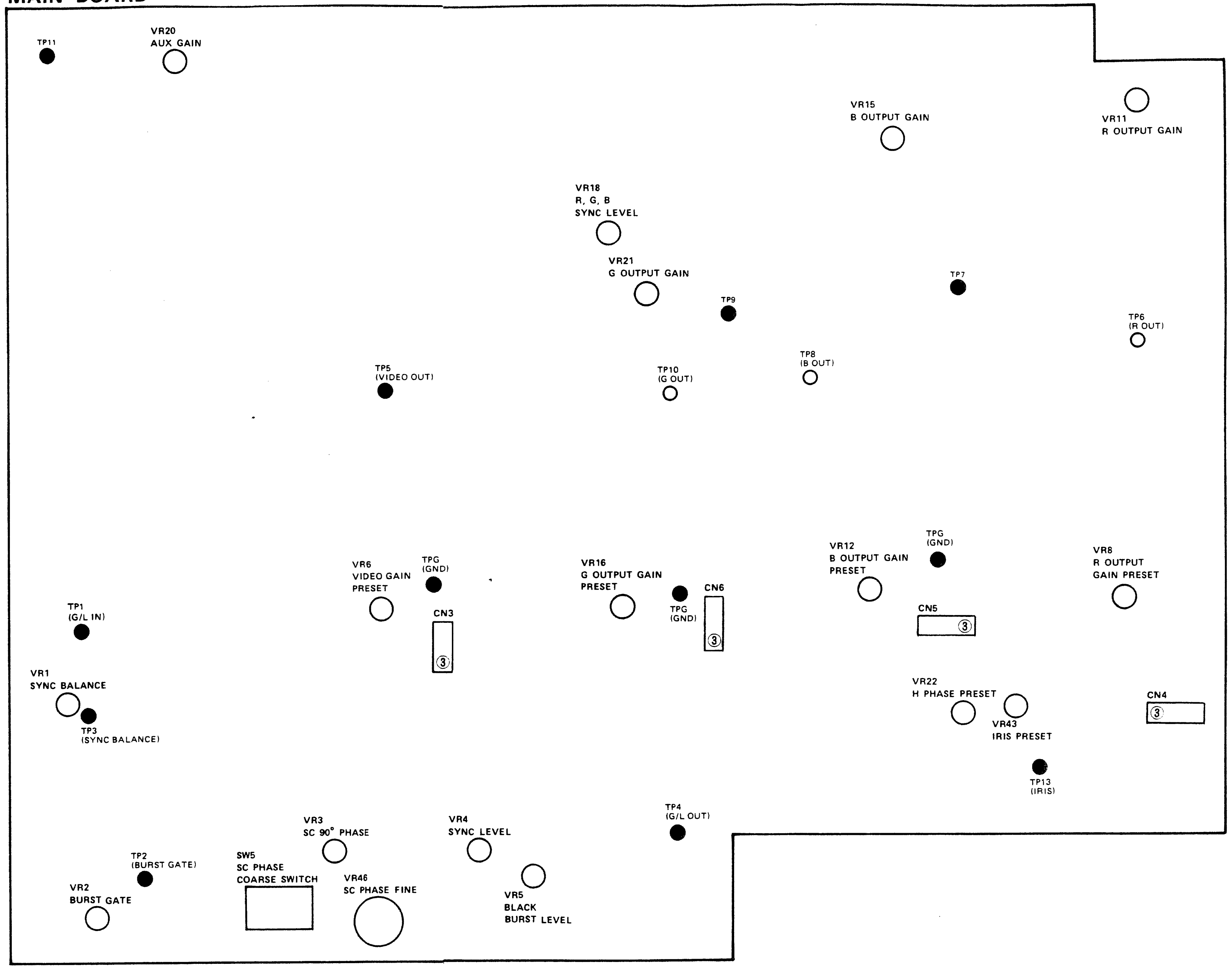
3. Solder both ends of chip (three leads for chip transistor).


Solder
Chip
Soldering iron

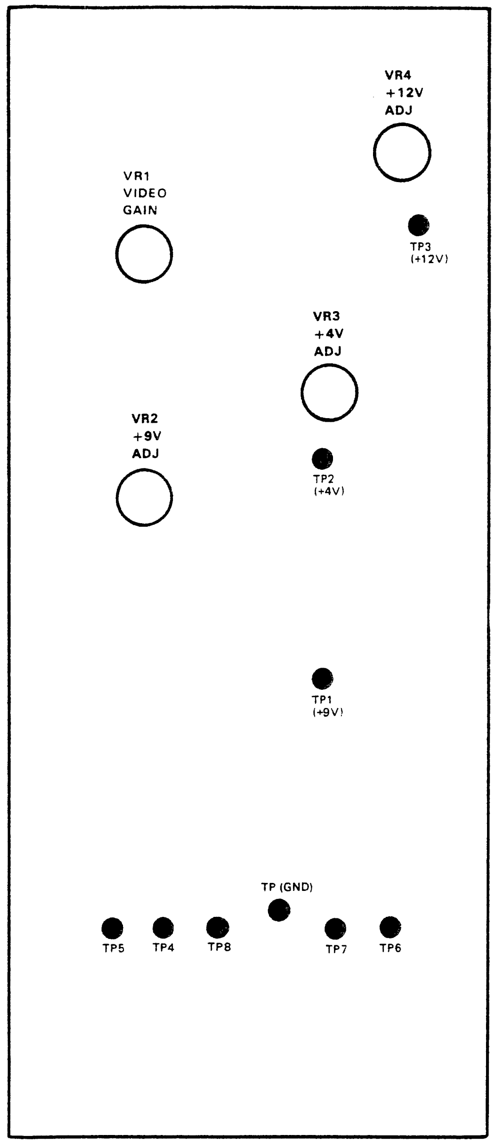
LOCATION OF TEST POINTS AND ADJUSTING CONTROLS

REMOTE CONTROL UNIT (RCU) WV-RC36

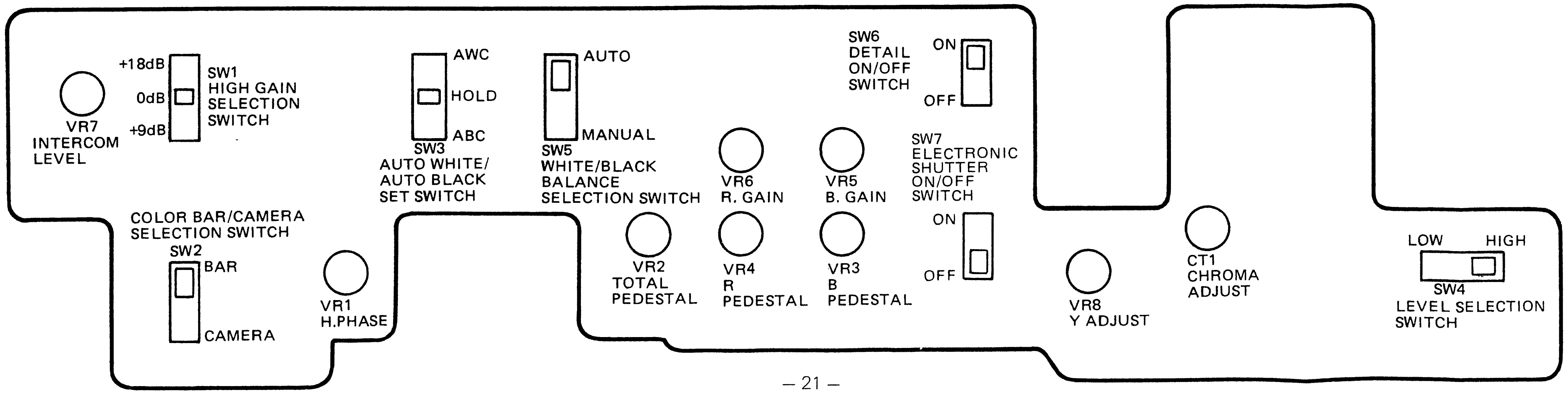
MAIN BOARD


TP11
VR20
AUX GAIN
VR15
B OUTPUT GAIN
VR11
R OUTPUT GAIN
VR18
R, G, B
SYNC LEVEL
VR21
G OUTPUT GAIN
TP9
TP7
TP6
(R OUT)
TP5
(VIDEO OUT)
TP10
(G OUT)
TP8
(B OUT)
VR6
VIDEO GAIN
PRESET
TPG
(GND)
CN3
③
VR16
G OUTPUT GAIN
PRESET
TPG
(GND)
CN6
③
VR12
B OUTPUT GAIN
PRESET
TPG
(GND)
CN5
③
VR8
R OUTPUT
GAIN PRESET
TP1
(G/L IN)
VR1
SYNC BALANCE
TP3
(SYNC BALANCE)
VR22
H PHASE PRESET
VR43
IRIS PRESET
CN4
③
TP13
(IRIS)
VR3
SC 90° PHASE
VR4
SYNC LEVEL
TP4
(G/L OUT)
TP2
(BURST GATE)
VR2
BURST GATE
SW5
SC PHASE
COARSE SWITCH
VR46
SC PHASE FINE
VR5
BLACK
BURST LEVEL

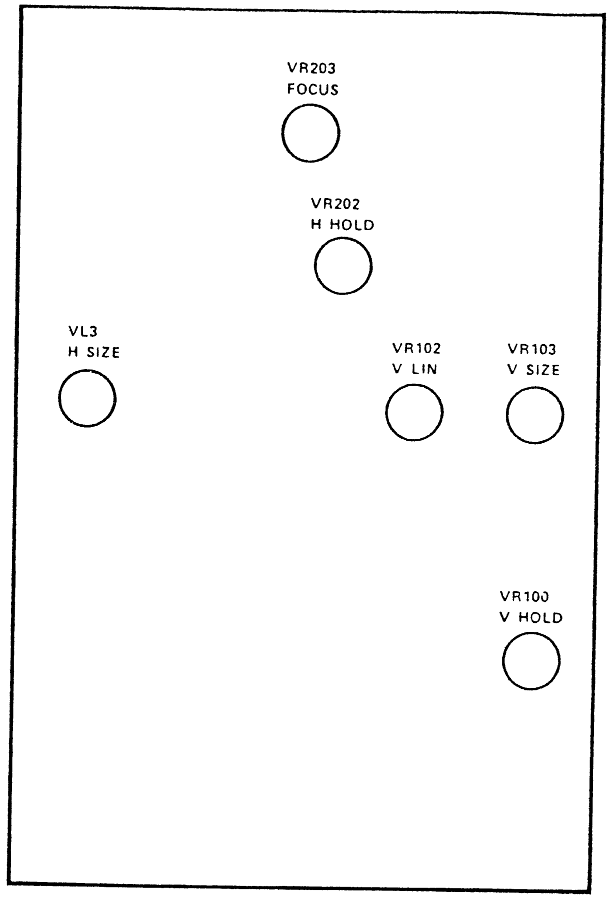
MICROPROCESSOR BOARD


VR4
+12V
ADJ
VR1
VIDEO
GAIN
TP3
(+12V)
VR3
+4V
ADJ
VR2
+9V
ADJ
TP2
(+4V)
TP1
(+9V)
TP (GND)
TP5
TP4
TP8
TP7
TP6

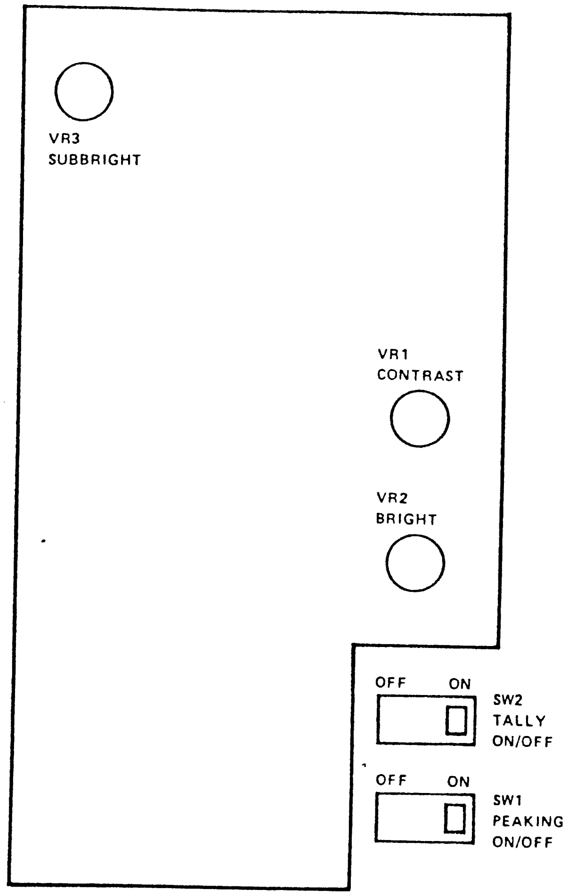
FRONT PANEL BOARD


VR7
INTERCOM
LEVEL
+18dB
0dB
+9dB
SW1
HIGH GAIN
SELECTION
SWITCH
AWC
HOLD
ABC
SW3
AUTO WHITE/
AUTO BLACK
SET SWITCH
AUTO
MANUAL
SW5
WHITE/BLACK
BALANCE
SELECTION SWITCH
SW6
DETAIL
ON/OFF
SWITCH
ON
OFF
VR6
R. GAIN
VR5
B. GAIN
SW7
ELECTRONIC
SHUTTER
ON/OFF
SWITCH
ON
OFF
COLOR BAR/CAMERA
SELECTION SWITCH
SW2
BAR
CAMERA
VR1
H.PHASE
VR2
TOTAL
PEDESTAL
VR4
R
PEDESTAL
VR3
B
PEDESTAL
VR8
Y ADJUST
CT1
CHROMA
ADJUST
LOW
HIGH
SW4
LEVEL SELECTION
SWITCH

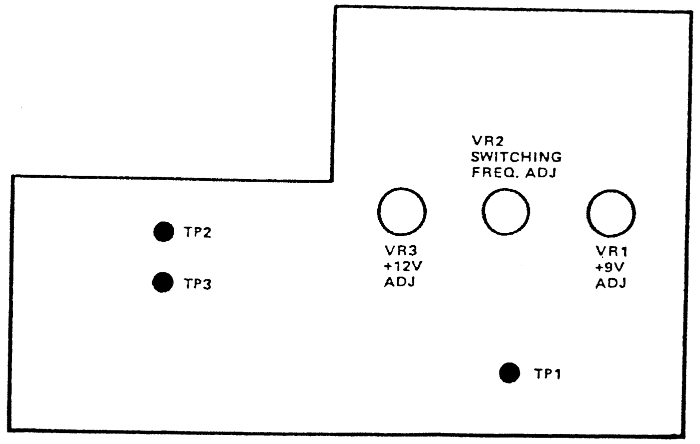
DEFLECTION BOARD


VR203
FOCUS
VR202
H HOLD
VL3
H SIZE
VR102
V LIN
VR103
V SIZE
VR100
V HOLD

VIDEO AMPLIFIER BOARD


VR3
SUBBRIGHT
VR1
CONTRAST
VR2
BRIGHT
OFF ON
SW2
TALLY
ON/OFF
OFF ON
SW1
PEAKING
ON/OFF

POWER BOARD


VR2
SWITCHING
FREQ. ADJ
TP2
TP3
VR3
+12V
ADJ
VR1
+9V
ADJ
TP1

Cable Information

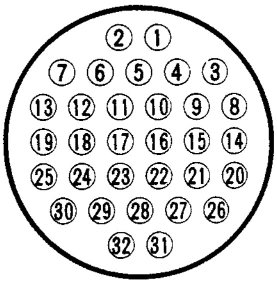
1. 32A-25, 32A-50, 32A-100

32 pin Connector Pin No.	Signal	30 Conductors Camera Cables			32 pin Connector Pin No.
		UL No.	Product Description	AWG Size	
1	VIDEO	1571	*1	28	1
2	GND	1571	*1	28	2
3	VTR START TRIGGER	1571	*1	28	3
4	VTR BATT ALARM	1571	*1	28	4
5	REC/TALLY	1571	*1	28	5
6	PLAY BACK AUDIO	1571	*1	28	6
7	NOT USED	1571	*1	28	7
8	CHROMA	1571	*1	28	8
9	+12V				9
10	NOT USED	1571	*1	16	10
11	+12V	1571	*1	16	11
12	AUDIO (+)	1571	*1	28	12
13	AUDIO (–)	1571	*1	28	13
14	AUDIO GND	1571	*1	28	14
15	CONTROL	1571	*1	28	15
16	DATA	1571	*1	28	16
17	AUTO INDICATOR	1571	*1	28	17
18	GND	1571	*1	28	18
19	+12V	1571	*1	16	19
20	GND	1571	*1	16	20
21	VIDEO/Y (RCU)	1631	COAXIAL CABLE	28	21
22	G/L VIDEO	1631	COAXIAL CABLE	28	22
23	AUX (LINE VIEW)	1631	COAXIAL CABLE	28	23
24	GND (Pin No. 21, 22, 23)			22	24
25	R/CHROMA	1631	COAXIAL CABLE	28	25
26	G/Y	1631	COAXIAL CABLE	28	26
27	B	1631	COAXIAL CABLE	28	27
28	GND (Pin No. 25, 26, 27)			22	28
29	GND (Pin No. 30, 31, 32)		*2	22	29
30	INTERCOM SPEAKER	2623	*3	28	30
31	INTERCOM MIC	2623	*3	28	31
32	IRIS REMOTE	2623	*3	28	32

Note : *1 Tinned copper, vinyl insulated, conductors cabled.
*2 Tinned copper braid shield cabled.
*3 2 Conductors shield cabled.

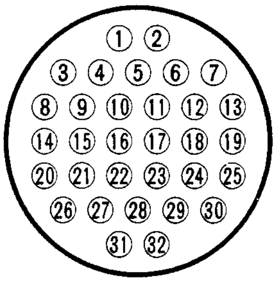
32P CONNECTOR-F

Part number : JMSP2532F


②①
⑦⑥⑤④③
⑬⑫⑪⑩⑨⑧
⑲⑱⑰⑯⑮⑭
㉕㉔㉓㉒㉑⑳
㉚㉙㉘㉗㉖
(32)(31)

32P CONNECTOR-M

Part number : JMCR2532M


①②
③④⑤⑥⑦
⑧⑨⑩⑪⑫⑬
⑭⑮⑯⑰⑱⑲
⑳㉑㉒㉓㉔㉕
㉖㉗㉘㉙㉚
(31)(32)

2. WV-CA32/10

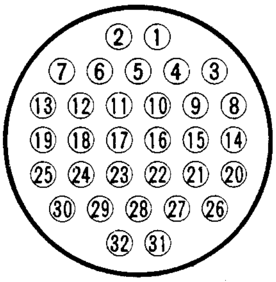
10 pin Connector Pin No.	Signal	6 Conductors Camera Cables			32 pin Connector Pin No.
		UL No.	Product Description	AWG Size	
1	VIDEO	1631	COAXIAL CABLE	28	1
2	GND			22	2
3	NOT USED				NOT USED
4	GND	1631	COAXIAL CABLE	30	20
5	NOT USED				NOT USED
6	VTR START TRIGGER	1061	*1	26	3
7	AUDIO (+)	1571	CONDUCTOR SHIELD CABLE	24	12
8	AUDIO GND			22	14
9	GND		*2	16	29
10	+12V	1571	*1	16	19

Note : *1 Tinned copper, vinyl insulated, conductors cabled.

*2 Tinned copper braid shield cabled.

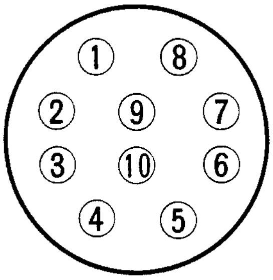
32P CONNECTOR-F

Part number : JMSP2532F


②①
⑦⑥⑤④③
⑬⑫⑪⑩⑨⑧
⑲⑱⑰⑯⑮⑭
㉕㉔㉓㉒㉑⑳
㉚㉙㉘㉗㉖
(32)(31)

10P CONNECTOR-M

Part number : RM15TPD10P


① ⑧
② ⑨ ⑦
③ ⑩ ⑥
④ ⑤

3. WV-32A/14

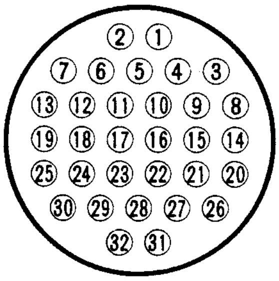
14 pin Connector Pin No.	Signal	10 Conductors Camera Cable			32 pin Connector Pin No.
		UL No.	Product Description	AWG Size	
1	GND		*2	14	29
2	+12V	1571	*1	16	19
3	AUDIO (+)	2854	2 CONDUCTORS SHIELD CABLE	28	12
4	AUDIO (–)			28	13
5	GND (Pin No. 3, 4, 14)			22	14
6	VIDEO/Y (RCU)	1631	COAXIAL CALBE	28	21
7	GND			18	24
8	GND (Pin No. 9, 10)			22	20
9	AUX (PLAY BACK VIDEO)	1631	COAXIAL CABLE	28	23
10	VTR BATT WARNING	1571	COAXIAL CABLE	26	4
11	CHROMA	1631	COAXIAL CABLE	28	8
12	REC/TALLY	1571	*1	16	5
13	VTR START TRIGGER	1571	*1	16	3
14	PLAY BACK AUDIO	1631	COAXIAL CABLE	28	6

Note : *1 Tinned copper, vinyl insulated, conductors cabled.

*2 Tinned copper braid shield cabled.

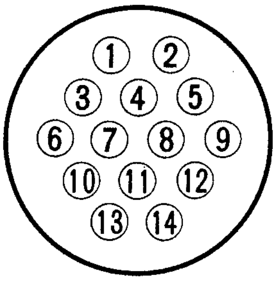
32P CONNECTOR-F

Part number : JMSP2532F



14P CONNECTOR-M

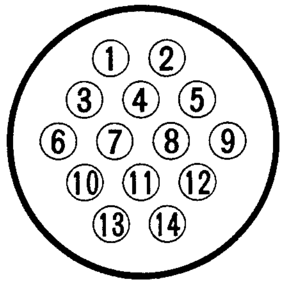
Part number : SRCB6A16-14P



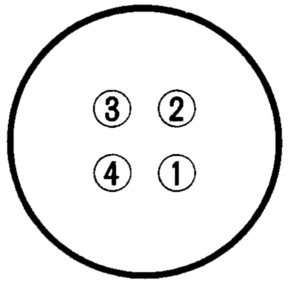
4. WV-CA38

14 pin Connector Pin No.	Signal	10 Conductors Camera Cable			RCA Pin Plug /M2.5 Pin Plug
		UL No.	Product Description	AWG Size	
1	GND (Pin No. 13)			26	M2.5-Pin Plug
2	NOT USED				NOT USED
3	AUDIO (+)	1691	COAXIAL CABLE	26	RCA-Pin Plug
4	NOT USED				NOT USED
5	GND (Pin No. 3)			26	RCA-Pin Plug
6	VIDEO/Y (RCU)	1691	COAXIAL CABLE	26	4-Pin Mini (3)
7	GND (Pin No. 6, 11)			26	NOT USED
8	NOT USED				NOT USED
9	NOT USED				NOT USED
10	NOT USED				NOT USED
11	CHROMA	1691	COAXIAL CABLE	26	4-Pin Mini (4)
12	NOT USED				NOT USED
13	VTR START TRIGGER	1691	COAXIAL CABLE	26	M2.5-Pin Plug
14	NOT USED				NOT USED

14P CONNECTOR-F
Part Number : SRCB1A1614S



4P CONNECTOR-M
Part Number : TPX345501A

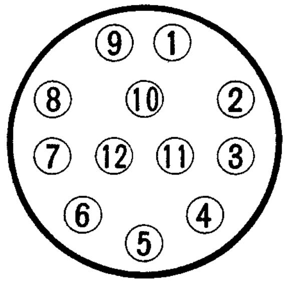


5. WV-LC10

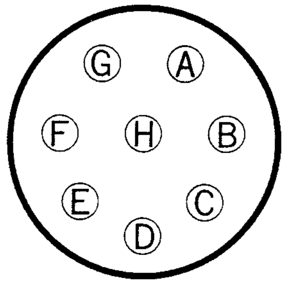
8 Pin Connector Pin No.	Signal	10 Conductors Camera Cable			12 Pin Connector Pin No.
		UL No.	Product Description	AWG Size	
A	GND		*2	18	3
B	IRIS CONT.	1571	*1	26	5
C	IRIS VIDEO	1571	*1	26	12
D	GND	1571	*1	26	3
E	+12V	1571	*1	26	6
F	8-PIN REC	1571	*1	26	11
G	GND	1571	*1	26	3
H	RETURN CONT.	1571	*1	26	1

Note : *1 Tinned copper, vinyl insulated, conductors cabled.
*2 Tinned copper braid shield cabled.

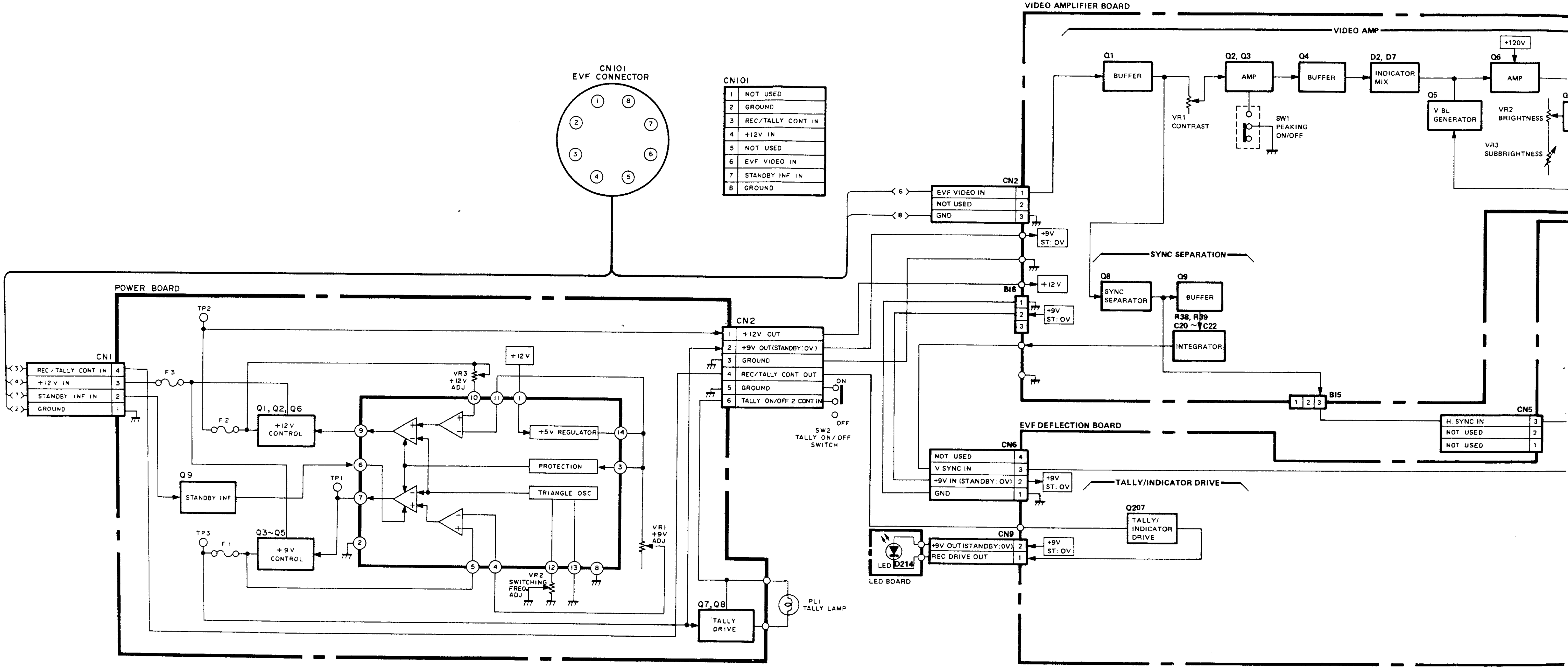
12P CONNECTOR-M
Part Number : HR10A10P12P

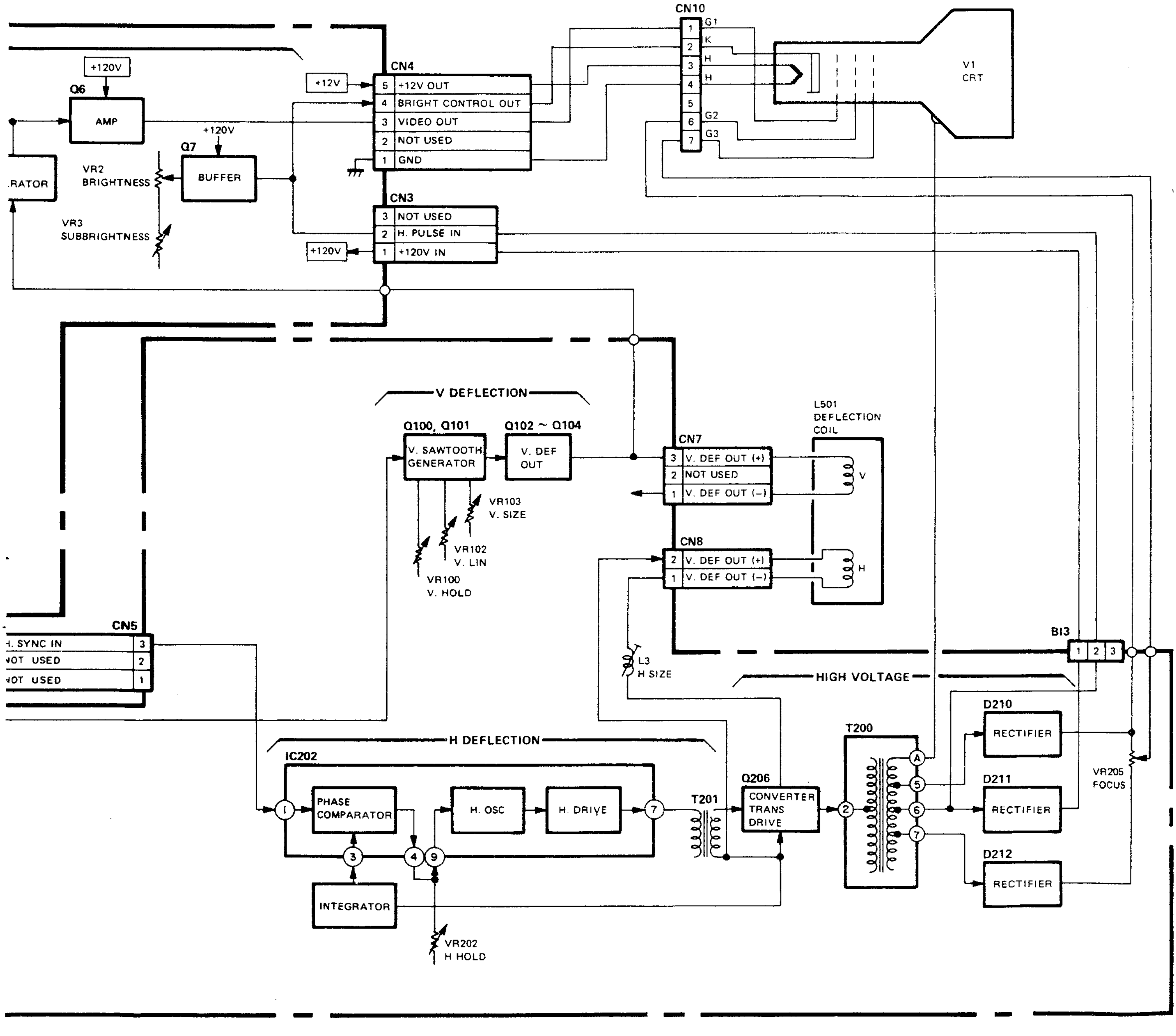


8P CONNECTOR-F
Part Number : R01-06J9-8F

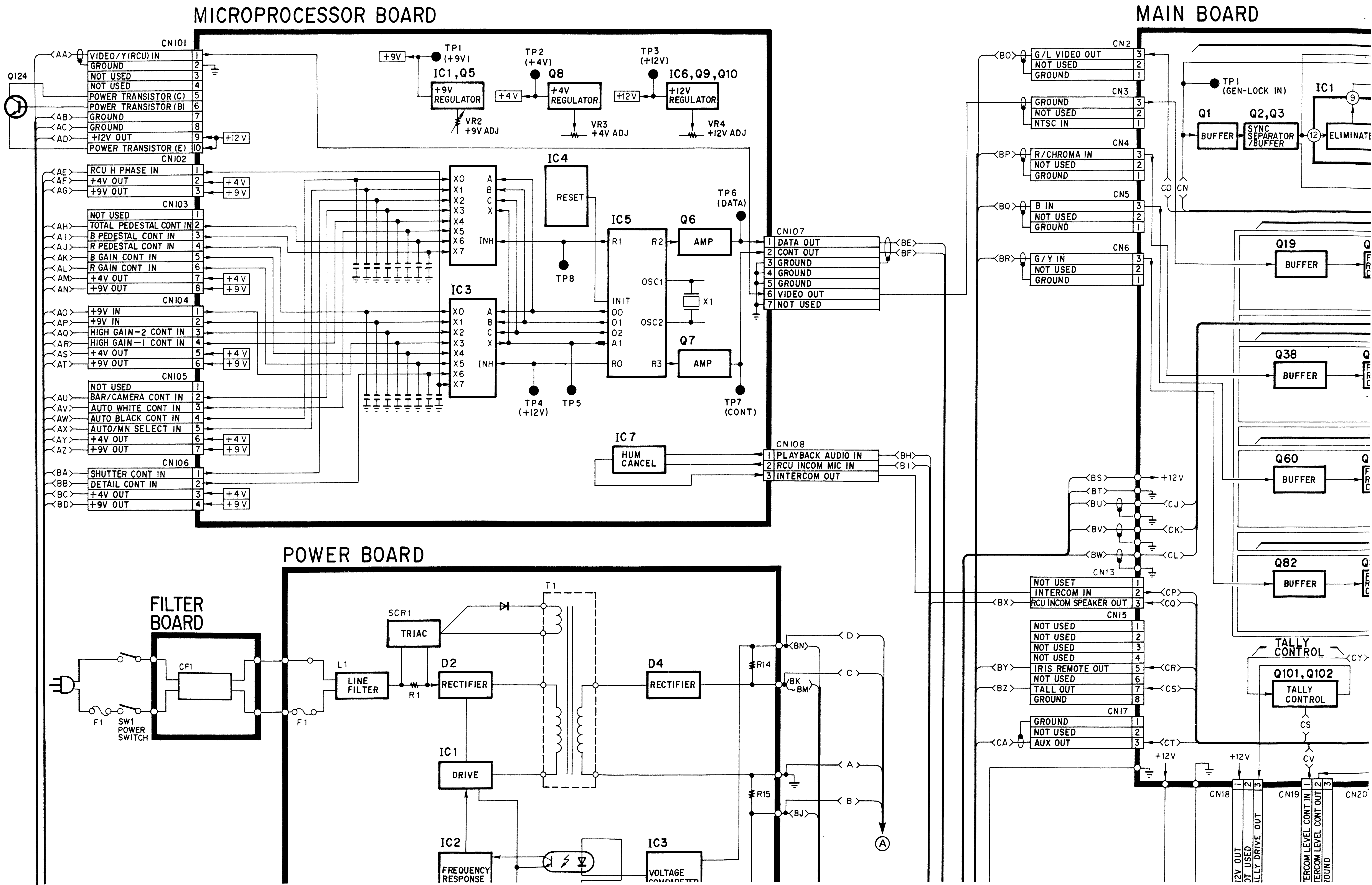


BLOCK DIAGRAM OF 5″ VIEWFINDER WV-VF65B


CN101
EVF CONNECTOR
CN101
1 NOT USED
2 GROUND
3 REC/TALLY CONT IN
4 +12V IN
5 NOT USED
6 EVF VIDEO IN
7 STANDBY INF IN
8 GROUND
POWER BOARD
CN1
REC/TALLY CONT IN 4
+12V IN 3
STANDBY INF IN 2
GROUND 1
F3
F2
F1
TP2
TP1
TP3
Q1, Q2, Q6
+12V CONTROL
Q9
STANDBY INF
Q3~Q5
+9V CONTROL
VR3 +12V ADJ
+12V
+5V REGULATOR
PROTECTION
TRIANGLE OSC
VR2 SWITCHING FREQ ADJ
VR1 +9V ADJ
CN2
1 +12V OUT
2 +9V OUT(STANDBY:0V)
3 GROUND
4 REC/TALLY CONT OUT
5 GROUND
6 TALLY ON/OFF 2 CONT IN
ON
OFF
SW2 TALLY ON/OFF SWITCH
Q7, Q8
TALLY DRIVE
PL1 TALLY LAMP
VIDEO AMPLIFIER BOARD
VIDEO AMP
Q1 BUFFER
VR1 CONTRAST
Q2, Q3 AMP
SW1 PEAKING ON/OFF
Q4 BUFFER
D2, D7 INDICATOR MIX
Q5 V BL GENERATOR
+120V
Q6 AMP
VR2 BRIGHTNESS
VR3 SUBBRIGHTNESS
CN2
EVF VIDEO IN 1
NOT USED 2
GND 3
+9V ST: 0V
+12V
B16
SYNC SEPARATION
Q8 SYNC SEPARATOR
Q9 BUFFER
R38, R39
C20 ~ C22
INTEGRATOR
B15
CN5
H. SYNC IN 3
NOT USED 2
NOT USED 1
EVF DEFLECTION BOARD
CN6
NOT USED 4
V SYNC IN 3
+9V IN (STANDBY: 0V) 2
GND 1
TALLY/INDICATOR DRIVE
Q207 TALLY/INDICATOR DRIVE
CN9
+9V OUT (STANDBY:0V) 2
REC DRIVE OUT 1
LED D214
LED BOARD

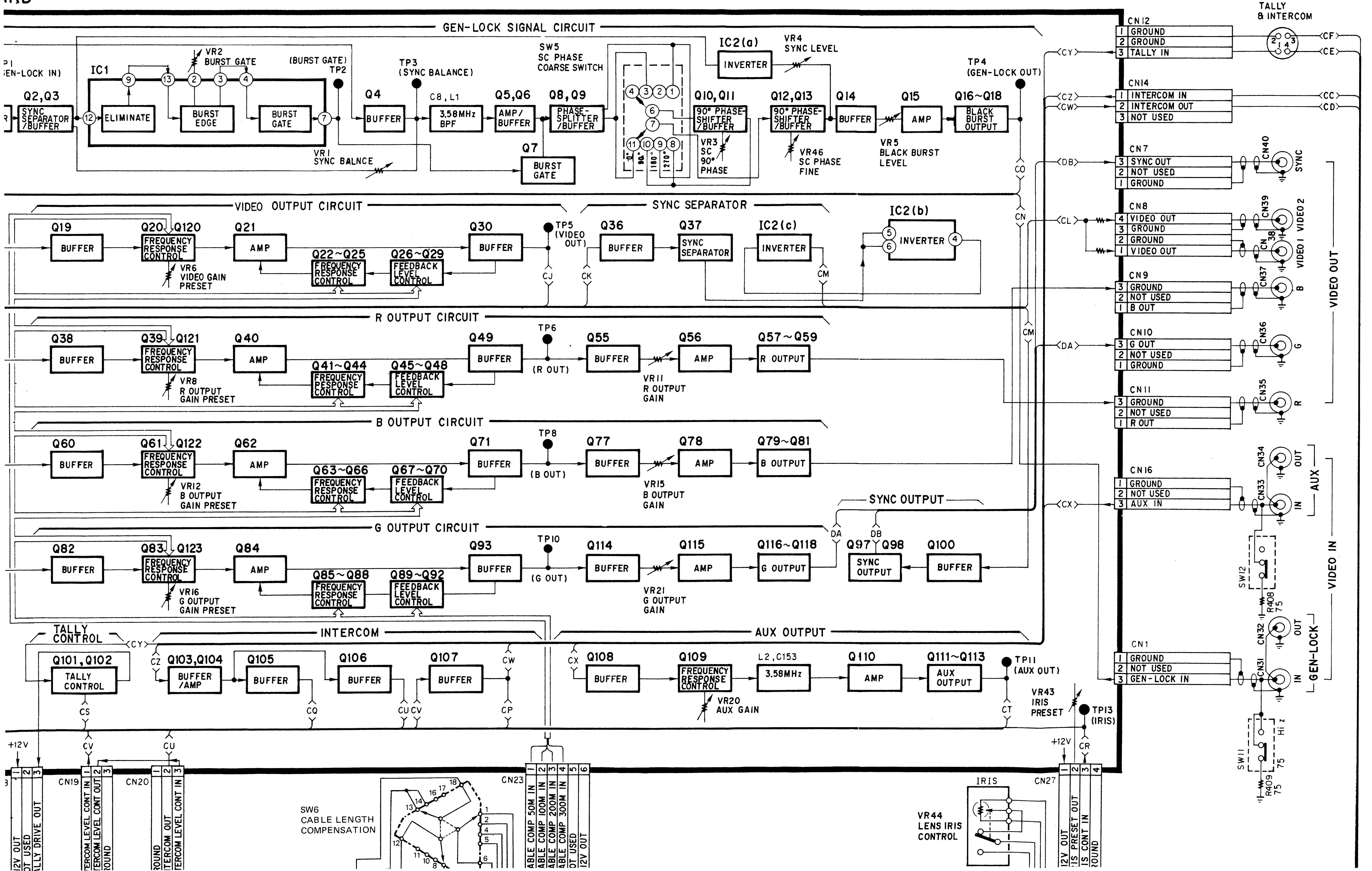

CN10
G1
K
H
H
G2
G3
V1
CRT
CN4
5 +12V OUT
4 BRIGHT CONTROL OUT
3 VIDEO OUT
2 NOT USED
1 GND
+12V
+120V
Q6
AMP
+120V
Q7
BUFFER
VR2
BRIGHTNESS
RATOR
VR3
SUBBRIGHTNESS
CN3
3 NOT USED
2 H. PULSE IN
1 +120V IN
+120V
V DEFLECTION
Q100, Q101
V. SAWTOOTH GENERATOR
Q102 ~ Q104
V. DEF OUT
VR103
V. SIZE
VR102
V. LIN
VR100
V. HOLD
CN7
3 V. DEF OUT (+)
2 NOT USED
1 V. DEF OUT (−)
L501
DEFLECTION
COIL
V
CN8
2 V. DEF OUT (+)
1 V. DEF OUT (−)
H
CN5
H. SYNC IN 3
NOT USED 2
NOT USED 1
L3
H SIZE
BI3
1 2 3
HIGH VOLTAGE
H DEFLECTION
IC202
PHASE COMPARATOR
H. OSC
H. DRIVE
INTEGRATOR
VR202
H HOLD
T201
Q206
CONVERTER TRANS DRIVE
T200
D210
RECTIFIER
D211
RECTIFIER
D212
RECTIFIER
VR205
FOCUS
1
3
4
9
7
2
A
5
6
7

BLOCK DIAGRAM OF REMOTE CONT

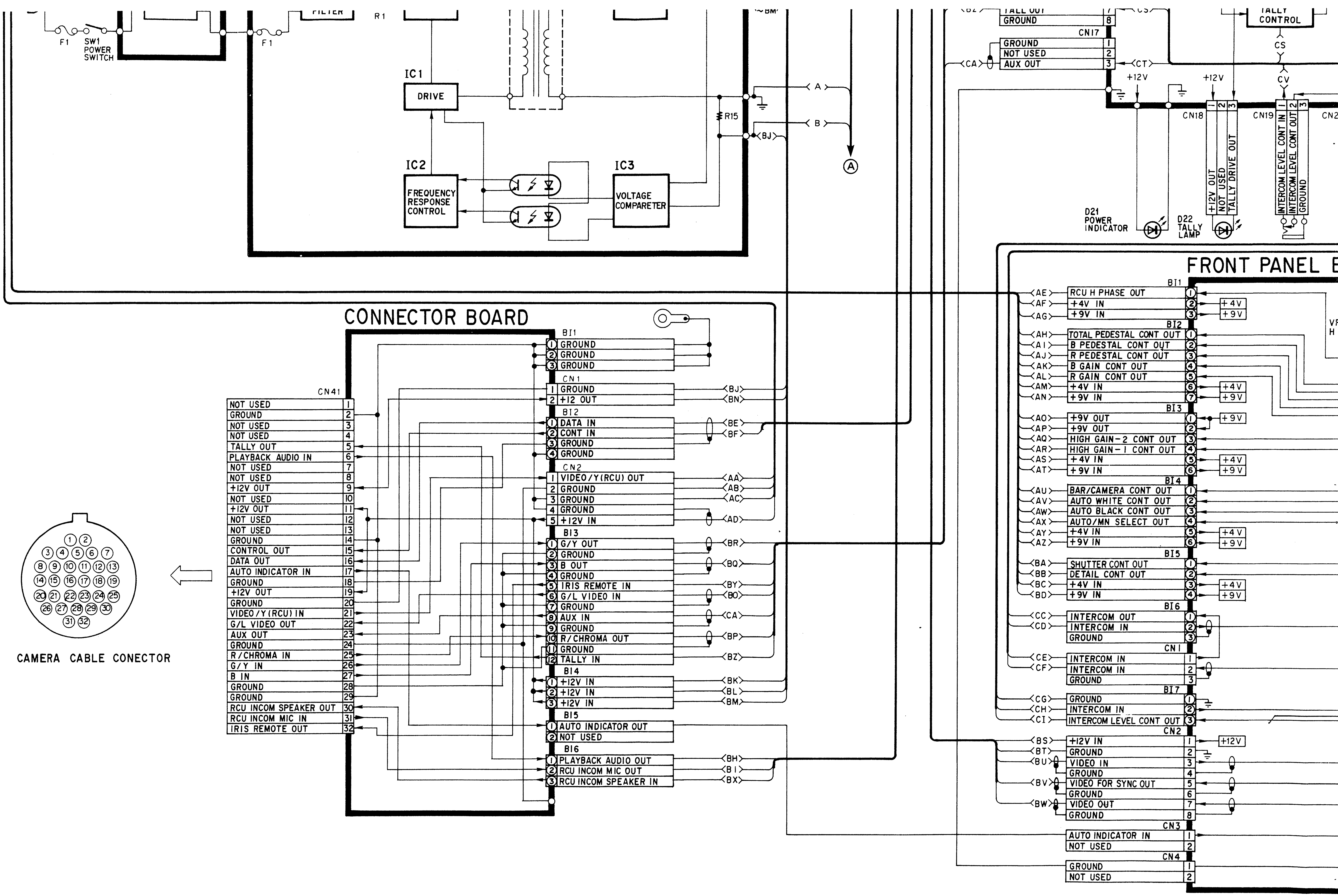

MICROPROCESSOR BOARD
CN101
VIDEO/Y(RCU) IN
GROUND
NOT USED
NOT USED
POWER TRANSISTOR (C)
POWER TRANSISTOR (B)
GROUND
GROUND
+12V OUT
POWER TRANSISTOR (E)
Q124
CN102
RCU H PHASE IN
+4V OUT
+9V OUT
CN103
NOT USED
TOTAL PEDESTAL CONT IN
B PEDESTAL CONT IN
R PEDESTAL CONT IN
B GAIN CONT IN
R GAIN CONT IN
+4V OUT
+9V OUT
CN104
+9V IN
+9V IN
HIGH GAIN-2 CONT IN
HIGH GAIN-1 CONT IN
+4V OUT
+9V OUT
CN105
NOT USED
BAR/CAMERA CONT IN
AUTO WHITE CONT IN
AUTO BLACK CONT IN
AUTO/MN SELECT IN
+4V OUT
+9V OUT
CN106
SHUTTER CONT IN
DETAIL CONT IN
+4V OUT
+9V OUT
TP1 (+9V)
IC1,Q5
+9V REGULATOR
VR2 +9V ADJ
TP2 (+4V)
Q8
+4V REGULATOR
VR3 +4V ADJ
TP3 (+12V)
IC6,Q9,Q10
+12V REGULATOR
VR4 +12V ADJ
IC4
RESET
IC3
IC5
R1 R2 OSC1 OSC2 INIT O0 O1 O2 A1 R0 R3
X0 X1 X2 X3 X4 X5 X6 X7 A B C X INH
X1
Q6
AMP
Q7
AMP
TP6 (DATA)
TP7 (CONT)
TP8
TP4 (+12V)
TP5
CN107
DATA OUT
CONT OUT
GROUND
GROUND
GROUND
VIDEO OUT
NOT USED
IC7
HUM CANCEL
CN108
PLAYBACK AUDIO IN
RCU INCOM MIC IN
INTERCOM OUT
POWER BOARD
FILTER BOARD
CF1
F1
SW1 POWER SWITCH
L1
LINE FILTER
R1
SCR1
TRIAC
D2
RECTIFIER
T1
D4
RECTIFIER
IC1
DRIVE
IC2
FREQUENCY RESPONSE
IC3
VOLTAGE COMPARETER
R14
R15
MAIN BOARD
CN2
G/L VIDEO OUT
NOT USED
GROUND
CN3
GROUND
NOT USED
NTSC IN
CN4
R/CHROMA IN
NOT USED
GROUND
CN5
B IN
NOT USED
GROUND
CN6
G/Y IN
NOT USED
GROUND
TP1 (GEN-LOCK IN)
Q1
BUFFER
Q2,Q3
SYNC SEPARATOR /BUFFER
IC1
ELIMINATE
Q19
BUFFER
Q38
BUFFER
Q60
BUFFER
Q82
BUFFER
CN13
NOT USET
INTERCOM IN
RCU INCOM SPEAKER OUT
CN15
NOT USED
NOT USED
NOT USED
NOT USED
IRIS REMOTE OUT
NOT USED
TALLY OUT
GROUND
CN17
GROUND
NOT USED
AUX OUT
TALLY CONTROL
Q101,Q102
TALLY CONTROL
CN18
CN19
CN20
+12V OUT
NOT USED
TALLY DRIVE OUT
INTERCOM LEVEL CONT IN
INTERCOM LEVEL CONT OUT
GROUND
+12V
+4V
+9V
AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ
BA BB BC BD BE BF BH BI BJ BK~BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ
CA CJ CK CL CN CO CP CQ CR CS CT CV CY
A B C D
Ⓐ

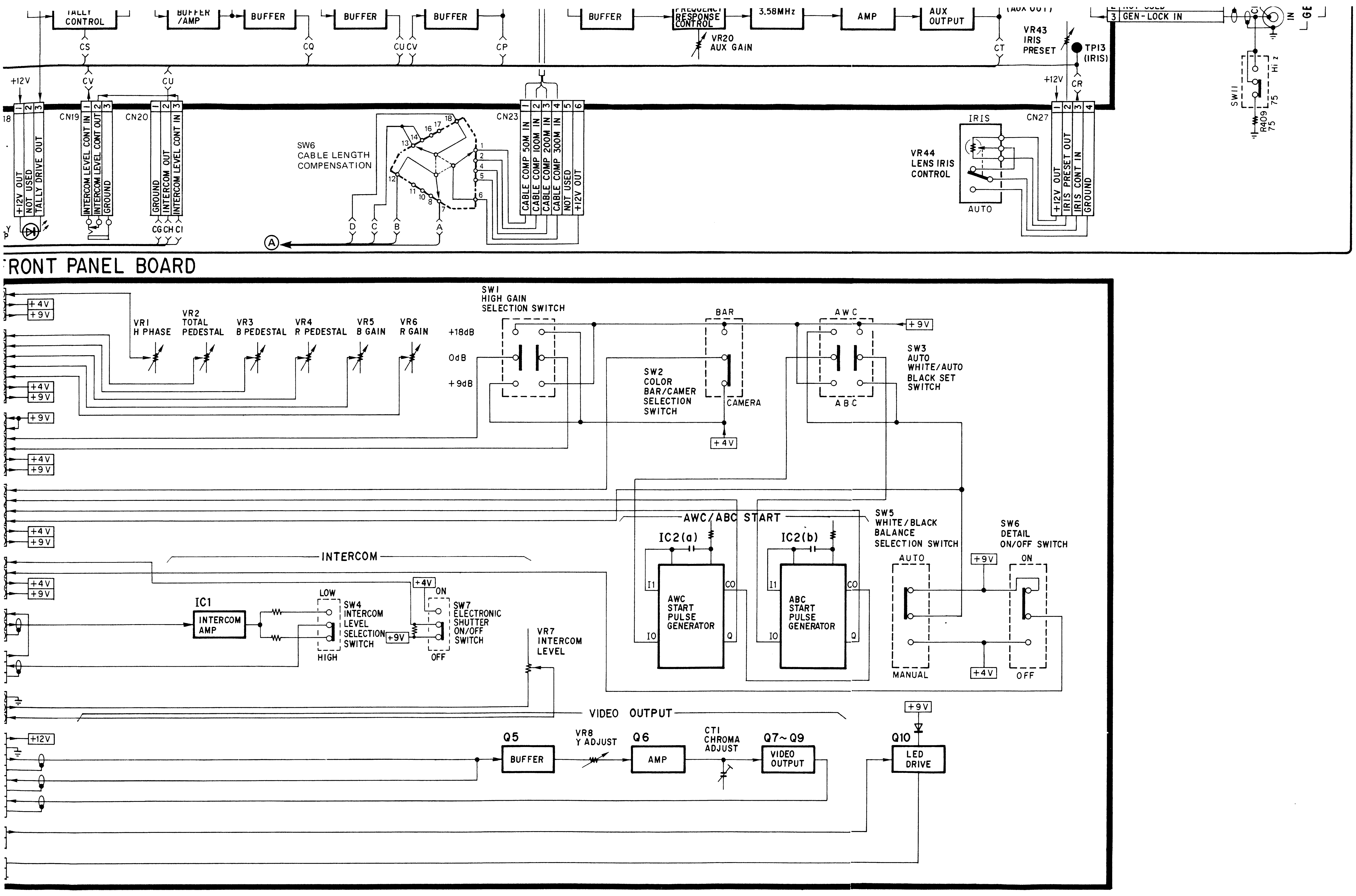
MOTE CONTROL UNIT WV-RC36

ARD



GEN-LOCK SIGNAL CIRCUIT
P1
EN-LOCK IN)
Q2,Q3
SYNC SEPARATOR /BUFFER
IC1
ELIMINATE
VR2 BURST GATE
BURST EDGE
BURST GATE
(BURST GATE) TP2
TP3 (SYNC BALANCE)
VR1 SYNC BALNCE
Q4
BUFFER
C8, L1
3.58MHz BPF
Q5,Q6
AMP/ BUFFER
Q7
BURST GATE
SW5 SC PHASE COARSE SWITCH
Q8,Q9
PHASE-SPLITTER /BUFFER
0°
90°
180°
270°
IC2(a)
INVERTER
VR4 SYNC LEVEL
Q10,Q11
90° PHASE-SHIFTER /BUFFER
VR3 SC 90° PHASE
Q12,Q13
90° PHASE-SHIFTER /BUFFER
VR46 SC PHASE FINE
Q14
BUFFER
Q15
AMP
VR5 BLACK BURST LEVEL
TP4 (GEN-LOCK OUT)
Q16~Q18
BLACK BURST OUTPUT
CO
CN
VIDEO OUTPUT CIRCUIT
Q19
BUFFER
Q20 Q120
FREQUENCY RESPONSE CONTROL
VR6 VIDEO GAIN PRESET
Q21
AMP
Q22~Q25
FREQUENCY RESPONSE CONTROL
Q26~Q29
FEEDBACK LEVEL CONTROL
Q30
BUFFER
TP5 (VIDEO OUT)
CJ
SYNC SEPARATOR
Q36
BUFFER
CK
Q37
SYNC SEPARATOR
IC2(c)
INVERTER
CM
IC2(b)
INVERTER
R OUTPUT CIRCUIT
Q38
BUFFER
Q39 Q121
FREQUENCY RESPONSE CONTROL
VR8 R OUTPUT GAIN PRESET
Q40
AMP
Q41~Q44
FREQUENCY RESPONSE CONTROL
Q45~Q48
FEEDBACK LEVEL CONTROL
Q49
BUFFER
TP6
(R OUT)
Q55
BUFFER
VR11 R OUTPUT GAIN
Q56
AMP
Q57~Q59
R OUTPUT
CM
B OUTPUT CIRCUIT
Q60
BUFFER
Q61 Q122
FREQUENCY RESPONSE CONTROL
VR12 B OUTPUT GAIN PRESET
Q62
AMP
Q63~Q66
FREQUENCY RESPONSE CONTROL
Q67~Q70
FEEDBACK LEVEL CONTROL
Q71
BUFFER
TP8
(B OUT)
Q77
BUFFER
VR15 B OUTPUT GAIN
Q78
AMP
Q79~Q81
B OUTPUT
SYNC OUTPUT
DA
DB
G OUTPUT CIRCUIT
Q82
BUFFER
Q83 Q123
FREQUENCY RESPONSE CONTROL
VR16 G OUTPUT GAIN PRESET
Q84
AMP
Q85~Q88
FREQUENCY RESPONSE CONTROL
Q89~Q92
FEEDBACK LEVEL CONTROL
Q93
BUFFER
TP10
(G OUT)
Q114
BUFFER
VR21 G OUTPUT GAIN
Q115
AMP
Q116~Q118
G OUTPUT
Q97 Q98
SYNC OUTPUT
Q100
BUFFER
TALLY CONTROL
CY
Q101,Q102
TALLY CONTROL
CS
INTERCOM
CZ
Q103,Q104
BUFFER /AMP
Q105
BUFFER
CQ
Q106
BUFFER
CU CV
Q107
BUFFER
CW
CP
AUX OUTPUT
CX
Q108
BUFFER
Q109
FREQUENCY RESPONSE CONTROL
VR20 AUX GAIN
L2,C153
3.58MHz
Q110
AMP
Q111~Q113
AUX OUTPUT
TP11 (AUX OUT)
CT
VR43 IRIS PRESET
TP13 (IRIS)
+12V
CV
CU
CN19
CN20
+12V
CR
TALLY & INTERCOM
CN12
1 GROUND
2 GROUND
3 TALLY IN
CF
CE
CY
CN14
1 INTERCOM IN
2 INTERCOM OUT
3 NOT USED
CZ
CW
CC
CD
CN7
3 SYNC OUT
2 NOT USED
1 GROUND
DB
CN40
SYNC
CN8
4 VIDEO OUT
3 GROUND
2 GROUND
1 VIDEO OUT
CL
CN39
VIDEO 2
CN38
VIDEO 1
CN9
3 GROUND
2 NOT USED
1 B OUT
CN37
B
CN10
3 G OUT
2 NOT USED
1 GROUND
DA
CN36
G
CN11
3 GROUND
2 NOT USED
1 R OUT
CN35
R
VIDEO OUT
CN16
1 GROUND
2 NOT USED
3 AUX IN
CX
CN34
OUT
CN33
IN
AUX
SW12
R408 75
VIDEO IN
CN1
1 GROUND
2 NOT USED
3 GEN-LOCK IN
CN32
OUT
CN31
IN
GEN-LOCK
SW11
Hi z
75
R409 75
2V OUT
OT USED
ALLY DRIVE OUT
TERCOM LEVEL CONT IN
TERCOM LEVEL CONT OUT
ROUND
ROUND
TERCOM OUT
TERCOM LEVEL CONT IN
SW6 CABLE LENGTH COMPENSATION
CN23
ABLE COMP 50M IN
ABLE COMP 100M IN
ABLE COMP 200M IN
ABLE COMP 300M IN
OT USED
12V OUT
IRIS
VR44 LENS IRIS CONTROL
CN27
2V OUT
IS PRESET OUT
IS CONT IN
ROUND


F1
SW1 POWER SWITCH
FILTER
R1
IC1
DRIVE
IC2
FREQUENCY RESPONSE CONTROL
IC3
VOLTAGE COMPARETER
R15
A
B
BJ
Ⓐ
CONNECTOR BOARD
CN41
NOT USED 1
GROUND 2
NOT USED 3
NOT USED 4
TALLY OUT 5
PLAYBACK AUDIO IN 6
NOT USED 7
NOT USED 8
+12V OUT 9
NOT USED 10
+12V OUT 11
NOT USED 12
NOT USED 13
GROUND 14
CONTROL OUT 15
DATA OUT 16
AUTO INDICATOR IN 17
GROUND 18
+12V OUT 19
GROUND 20
VIDEO/Y(RCU) IN 21
G/L VIDEO OUT 22
AUX OUT 23
GROUND 24
R/CHROMA IN 25
G/Y IN 26
B IN 27
GROUND 28
GROUND 29
RCU INCOM SPEAKER OUT 30
RCU INCOM MIC IN 31
IRIS REMOTE OUT 32
BI1
① GROUND
② GROUND
③ GROUND
CN1
1 GROUND
2 +12 OUT
BI2
① DATA IN
② CONT IN
③ GROUND
④ GROUND
CN2
1 VIDEO/Y(RCU) OUT
2 GROUND
3 GROUND
4 GROUND
5 +12V IN
BI3
① G/Y OUT
② GROUND
③ B OUT
④ GROUND
⑤ IRIS REMOTE IN
⑥ G/L VIDEO IN
⑦ GROUND
⑧ AUX IN
⑨ GROUND
⑩ R/CHROMA OUT
⑪ GROUND
⑫ TALLY IN
BI4
① +12V IN
② +12V IN
③ +12V IN
BI5
① AUTO INDICATOR OUT
② NOT USED
BI6
① PLAYBACK AUDIO OUT
② RCU INCOM MIC OUT
③ RCU INCOM SPEAKER IN
BJ BN BE BF AA AB AC AD BR BQ BY BO CA BP BZ BK BL BM BH BI BX
CAMERA CABLE CONECTOR
TALLY OUT 7
GROUND 8
CN17
GROUND 1
NOT USED 2
AUX OUT 3
CA CT
TALLY CONTROL
CS CV
+12V
+12V
CN18
+12V OUT 1
NOT USED 2
TALLY DRIVE OUT 3
CN19
INTERCOM LEVEL CONT IN 1
INTERCOM LEVEL CONT OUT 2
GROUND 3
D21 POWER INDICATOR
D22 TALLY LAMP
FRONT PANEL B
BI1
AE RCU H PHASE OUT ①
AF +4V IN ②
AG +9V IN ③
BI2
AH TOTAL PEDESTAL CONT OUT ①
AI B PEDESTAL CONT OUT ②
AJ R PEDESTAL CONT OUT ③
AK B GAIN CONT OUT ④
AL R GAIN CONT OUT ⑤
AM +4V IN ⑥
AN +9V IN ⑦
BI3
AO +9V OUT ①
AP +9V OUT ②
AQ HIGH GAIN-2 CONT OUT ③
AR HIGH GAIN-1 CONT OUT ④
AS +4V IN ⑤
AT +9V IN ⑥
BI4
AU BAR/CAMERA CONT OUT ①
AV AUTO WHITE CONT OUT ②
AW AUTO BLACK CONT OUT ③
AX AUTO/MN SELECT OUT ④
AY +4V IN ⑤
AZ +9V IN ⑥
BI5
BA SHUTTER CONT OUT ①
BB DETAIL CONT OUT ②
BC +4V IN ③
BD +9V IN ④
BI6
CC INTERCOM OUT ①
CD INTERCOM IN ②
GROUND ③
CN1
CE INTERCOM IN 1
CF INTERCOM IN 2
GROUND 3
BI7
CG GROUND ①
CH INTERCOM IN ②
CI INTERCOM LEVEL CONT OUT ③
CN2
BS +12V IN 1
BT GROUND 2
BU VIDEO IN 3
GROUND 4
BV VIDEO FOR SYNC OUT 5
GROUND 6
BW VIDEO OUT 7
GROUND 8
CN3
AUTO INDICATOR IN 1
NOT USED 2
CN4
GROUND 1
NOT USED 2
+4V
+9V
+12V
VR
H

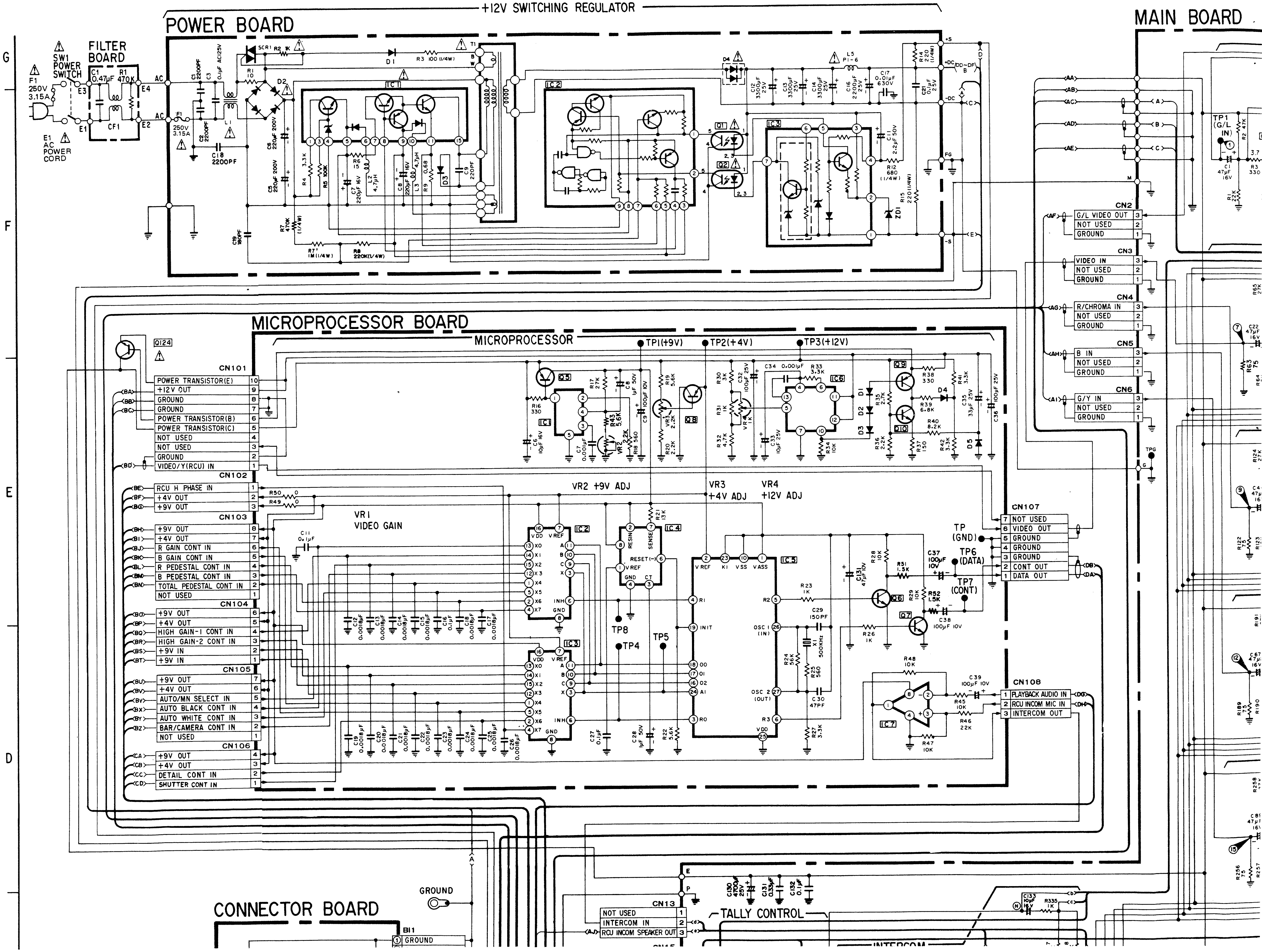

TALLY CONTROL
BUFFER /AMP
BUFFER
BUFFER
BUFFER
BUFFER
RESPONSE CONTROL
3.58MHz
AMP
AUX OUTPUT
(AUX OUT)
3 GEN-LOCK IN
VR20 AUX GAIN
VR43 IRIS PRESET
TP13 (IRIS)
CS
CQ
CU CV
CP
CT
CV
CU
CR
+12V
+12V
CN19
CN20
CN23
CN27
+12V OUT
NOT USED
TALLY DRIVE OUT
INTERCOM LEVEL CONT IN
INTERCOM LEVEL CONT OUT
GROUND
GROUND
INTERCOM OUT
INTERCOM LEVEL CONT IN
SW6 CABLE LENGTH COMPENSATION
CABLE COMP 50M IN
CABLE COMP 100M IN
CABLE COMP 200M IN
CABLE COMP 300M IN
NOT USED
+12V OUT
D
C
B
A
CG CH CI
A
IRIS
VR44 LENS IRIS CONTROL
AUTO
+12V OUT
IRIS PRESET OUT
IRIS CONT IN
GROUND
SW11
Hi z
75
R409 75
RONT PANEL BOARD
+4V
+9V
VR1 H PHASE
VR2 TOTAL PEDESTAL
VR3 B PEDESTAL
VR4 R PEDESTAL
VR5 B GAIN
VR6 R GAIN
SW1 HIGH GAIN SELECTION SWITCH
+18dB
0dB
+9dB
BAR
SW2 COLOR BAR/CAMER SELECTION SWITCH
CAMERA
AWC
ABC
SW3 AUTO WHITE/AUTO BLACK SET SWITCH
AWC/ABC START
IC2(a)
IC2(b)
AWC START PULSE GENERATOR
ABC START PULSE GENERATOR
I1
CO
IO
Q
SW5 WHITE/BLACK BALANCE SELECTION SWITCH
AUTO
MANUAL
SW6 DETAIL ON/OFF SWITCH
ON
OFF
INTERCOM
IC1
INTERCOM AMP
LOW
HIGH
SW4 INTERCOM LEVEL SELECTION SWITCH
SW7 ELECTRONIC SHUTTER ON/OFF SWITCH
VR7 INTERCOM LEVEL
VIDEO OUTPUT
Q5
BUFFER
VR8 Y ADJUST
Q6
AMP
CT1 CHROMA ADJUST
Q7~Q9
VIDEO OUTPUT
Q10
LED DRIVE

SCHEMATIC DIAGRAM OF

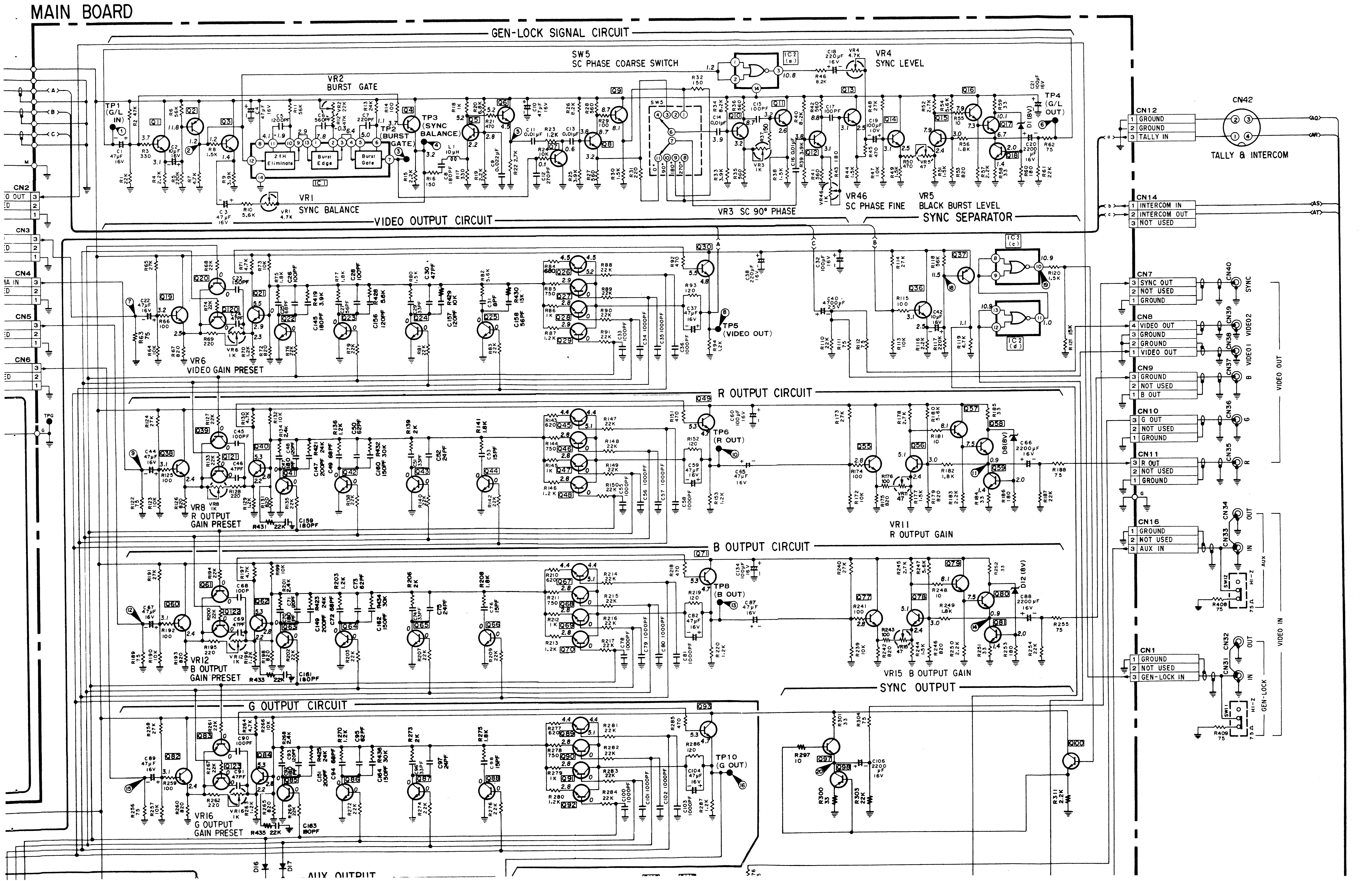
WV-RC36

MAIN BOARD

IC1	DN850	F6
IC2	HD14001BP	F8
Q1	2SC828A-RS	F5
Q2	2SA838-C	F5
Q3	2SC828A-RS	F5
Q4	2SC828A-RS	F6
Q5	2SC828A-RS	F6
Q6	2SC828A-RS	F6
Q7	2SC1216F	F7
Q8	2SC1216F	F7
Q9	2SC1216F	F7
Q10	2SC1216F	F7
Q11	2SC1216F	F8
Q12	2SC1216F	F8
Q13	2SC1216F	F8
Q14	2SC1216F	F8
Q15	2SC1216F	F8
Q16	2SC1216F	F8
Q17	2SC1317-S	F8
Q18	2SC1317-S	F8
Q19	2SC828A-RS	F5
Q20	2SC828A-RS	F5
Q21	2SC828A-RS	F5
Q22	2SC828A-RS	E6
Q23	2SC828A-RS	E6
Q24	2SC828A-RS	E6
Q25	2SC828A-RS	E6
Q26	2SC828A-RS	F7
Q27	2SC828A-RS	F7
Q28	2SC828A-RS	F7
Q29	2SC828A-RS	E7
Q30	2SC828A-RS	F7
Q36	2SC828A-RS	F8
Q37	2SA838-C	F8
Q38	2SC828A-RS	E5
Q39	2SC828A-RS	E5
Q40	2SC828A-RS	E5
Q41	2SC828A-RS	E6
Q42	2SC828A-RS	E6
Q43	2SC828A-RS	E6
Q44	2SC828A-RS	E6
Q45	2SC828A-RS	E7
Q46	2SC828A-RS	E7
Q47	2SC828A-RS	E7
Q48	2SC828A-RS	E7
Q49	2SC828A-RS	E7
Q55	2SC828A-RS	F8
C56	2SC828A-RS	F8
Q57	2SC828A-RS	F8
Q58	2SC1317-S	F8
Q59	2SC1317-S	F8
Q60	2SC828A-RS	D5
Q61	2SC828A-RS	D5
Q62	2SC828A-RS	D5
Q63	2SC828A-RS	D6
Q64	2SC828A-RS	D6
Q65	2SC828A-RS	D6
Q66	2SC828A-RS	D6
Q67	2SC828A-RS	D7
Q68	2SC828A-RS	D7
Q69	2SC828A-RS	D7
Q70	2SC828A-RS	D7
Q71	2SC828A-RS	D7
Q77	2SC828A-RS	D8
Q78	2SC828A-RS	D8
Q79	2SC828A-RS	D8
Q80	2SC1317-S	D8
Q81	2SC1317-S	D8
Q82	2SC828A-RS	D5
Q83	2SC828A-RS	D5
Q84	2SC828A-RS	D5
Q85	2SC828A-RS	D6
Q86	2SC828A-RS	D6
Q87	2SC828A-RS	D6
Q88	2SC828A-RS	D6
Q89	2SC828A-RS	D7
Q90	2SC828A-RS	D7
Q91	2SC828A-RS	D7
Q92	2SC828A-RS	D7
Q93	2SC828A-RS	D7
Q97	2SC1317-S	D8
Q98	2SA719-QR	D8
Q100	2SC828A-RS	D9
Q101	2SA564A-RS	C3
Q102	2SC828A-RS	C3
Q103	2SC828A-RS	C4
Q104	2SC828A-RS	C4
Q105	2SC828A-RS	C4
Q106	2SC828A-RS	C4


G
F
E
D
+12V SWITCHING REGULATOR
POWER BOARD
FILTER BOARD
SW1 POWER SWITCH
F1 250V 3.15A
E1 AC POWER CORD
CF1
IC1
IC2
IC3
Q1
Q2
D4
L5 P1-6
MAIN BOARD
TP1 (G/L IN)
CN2
G/L VIDEO OUT
NOT USED
GROUND
CN3
VIDEO IN
NOT USED
GROUND
CN4
R/CHROMA IN
NOT USED
GROUND
CN5
B IN
NOT USED
GROUND
CN6
G/Y IN
NOT USED
GROUND
TPG
MICROPROCESSOR BOARD
MICROPROCESSOR
TP1(+9V)
TP2(+4V)
TP3(+12V)
Q124
CN101
POWER TRANSISTOR(E)
+12V OUT
GROUND
GROUND
POWER TRANSISTOR(B)
POWER TRANSISTOR(C)
NOT USED
NOT USED
GROUND
VIDEO/Y(RCU) IN
CN102
RCU H PHASE IN
+4V OUT
+9V OUT
CN103
+9V OUT
+4V OUT
R GAIN CONT IN
B GAIN CONT IN
R PEDESTAL CONT IN
B PEDESTAL CONT IN
TOTAL PEDESTAL CONT IN
NOT USED
CN104
+9V OUT
+4V OUT
HIGH GAIN-1 CONT IN
HIGH GAIN-2 CONT IN
+9V IN
+9V IN
CN105
+9V OUT
+4V OUT
AUTO/MN SELECT IN
AUTO BLACK CONT IN
AUTO WHITE CONT IN
BAR/CAMERA CONT IN
NOT USED
CN106
+9V OUT
+4V OUT
DETAIL CONT IN
SHUTTER CONT IN
VR1 VIDEO GAIN
VR2 +9V ADJ
VR3 +4V ADJ
VR4 +12V ADJ
IC4
IC5
IC6
IC7
TP (GND)
TP6 (DATA)
TP7 (CONT)
TP8
TP4
TP5
CN107
NOT USED
VIDEO OUT
GROUND
GROUND
GROUND
CONT OUT
DATA OUT
CN108
PLAYBACK AUDIO IN
RCU INCOM MIC IN
INTERCOM OUT
CONNECTOR BOARD
GROUND
BI1
GROUND
CN13
NOT USED
INTERCOM IN
RCU INCOM SPEAKER OUT
TALLY CONTROL
INTERCOM

AGRAM OF REMOTE CONTROL UNIT WV-RC36


MAIN BOARD
GEN-LOCK SIGNAL CIRCUIT
SW5
SC PHASE COARSE SWITCH
IC2 (a)
VR4
SYNC LEVEL
VR2
BURST GATE
TP1 (G/L IN)
TP2 (BURST GATE)
TP3 (SYNC BALANCE)
TP4 (G/L OUT)
2fH Eliminate
Burst Edge
Burst Gate
IC1
VR1
SYNC BALANCE
VR3 SC 90° PHASE
VR46
SC PHASE FINE
VR5
BLACK BURST LEVEL
SYNC SEPARATOR
VIDEO OUTPUT CIRCUIT
VR6
VIDEO GAIN PRESET
TP5 (VIDEO OUT)
IC2 (c)
IC2 (d)
R OUTPUT CIRCUIT
VR8
R OUTPUT GAIN PRESET
TP6 (R OUT)
VR11
R OUTPUT GAIN
B OUTPUT CIRCUIT
VR12
B OUTPUT GAIN PRESET
TP8 (B OUT)
VR15 B OUTPUT GAIN
SYNC OUTPUT
G OUTPUT CIRCUIT
VR16
G OUTPUT GAIN PRESET
TP10 (G OUT)
AUX OUTPUT
CN2
CN3
CN4
CN5
CN6
TPG
CN12
1 GROUND
2 GROUND
3 TALLY IN
CN42
TALLY & INTERCOM
CN14
1 INTERCOM IN
2 INTERCOM OUT
3 NOT USED
CN7
3 SYNC OUT
2 NOT USED
1 GROUND
CN40
SYNC
CN8
4 VIDEO OUT
3 GROUND
2 GROUND
1 VIDEO OUT
CN39
CN38
VIDEO2
VIDEO1
CN9
3 GROUND
2 NOT USED
1 B OUT
CN37
B
VIDEO OUT
CN10
3 G OUT
2 NOT USED
1 GROUND
CN36
G
CN11
3 R OUT
2 NOT USED
1 GROUND
CN35
R
CN16
1 GROUND
2 NOT USED
3 AUX IN
CN34
CN33
OUT
IN
AUX
SW12
HI-Z
75Ω
R408 75
CN1
1 GROUND
2 NOT USED
3 GEN-LOCK IN
CN32
CN31
GEN-LOCK
VIDEO IN
SW11
R409 75
D16
D17

Q84	2SC828A-RS	D5
Q85	2SC828A-RS	D6
Q86	2SC828A-RS	D6
Q87	2SC828A-RS	D6
Q88	2SC828A-RS	D6
Q89	2SC828A-RS	D7
Q90	2SC828A-RS	D7
Q91	2SC828A-RS	D7
Q92	2SC828A-RS	D7
Q93	2SC828A-RS	D7
Q97	2SC1317-S	D8
Q98	2SA719-QR	D8
Q100	2SC828A-RS	D9
Q101	2SA564A-RS	C3
Q102	2SC828A-RS	C3
Q103	2SC828A-RS	C4
Q104	2SC828A-RS	C4
Q105	2SC828A-RS	C4
Q106	2SC828A-RS	C4
Q107	2SC828A-RS	C4
Q108	2SC828A-RS	C5
Q109	2SC828A-RS	C5
Q110	2SC828A-RS	C6
Q111	2SC828A-RS	C6
Q112	2SC1317-S	C6
Q113	2SC1317-S	C6
Q114	2SC828A-RS	C7
Q115	2SC828A-RS	C7
Q116	2SC828A-RS	C7
Q117	2SC1317-S	C7
Q118	2SC1317-S	C7
Q120	2SC828A-RS	F5
Q121	2SC828A-RS	E5
Q122	2SC828A-RS	D5
Q123	2SC828A-RS	D5
D1	MA4082L	F8
D8	MA4082L	E8
D12	MA4082L	D8
D16	MA165	C6
D17	MA165	C5
D18	MA4082L	C6
D19	MA4082L	C7

MICROPROCESSOR BOARD

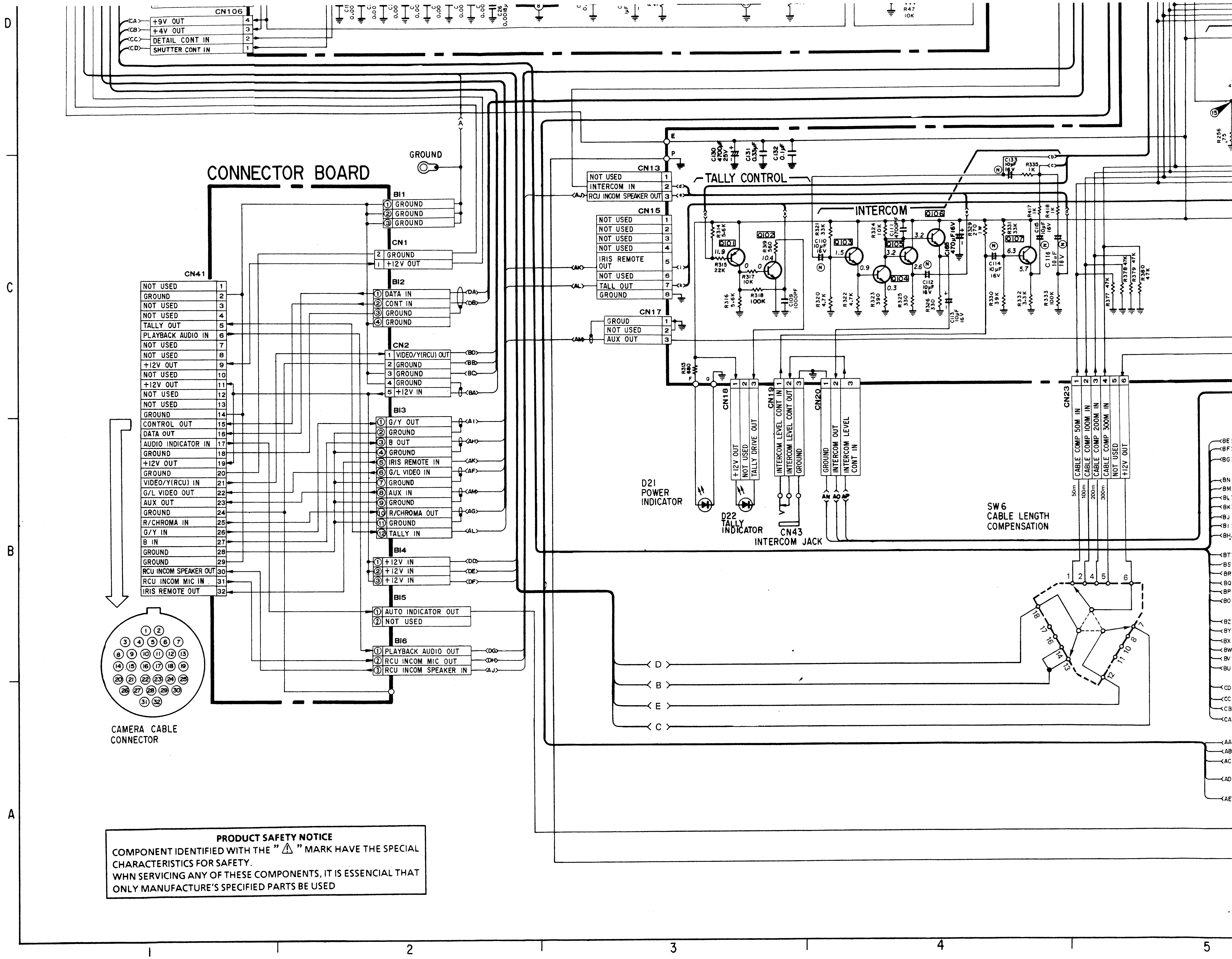
IC1	M5231L	E2
IC2	TC4051B	E2
IC3	TC4051B	D2
IC4	TL7705CP	E3
IC5	M46015	E3
IC6	NJM723	E3
IC7	NJM2904	D4
Q5	2SB793A-RS	E2
Q6	2SD636-Q	E4
Q7	2SD636-Q	E4
Q8	2SB793A-RS	E3
Q9	2SB793A-RS	E4
Q10	2SD973A-RS	E4
D1	MA165	E4
D2	MA165	E4
D3	MA165	E4
D4	MA165	E4
D5	MA165	E4

FRONT PANEL BOARD

IC1	YFNJM386D	B6
IC2	MN4538B	B8
Q5	2SD636-Q	A7
Q6	2SD636-Q	A7
Q7	2SD636-Q	A8
Q8	2SD638-RS	A8
Q9	2SD638-RS	A8
Q10	2SD636-Q	A8
D1	MA4082L	A8
D2	LN31-GCP	A8

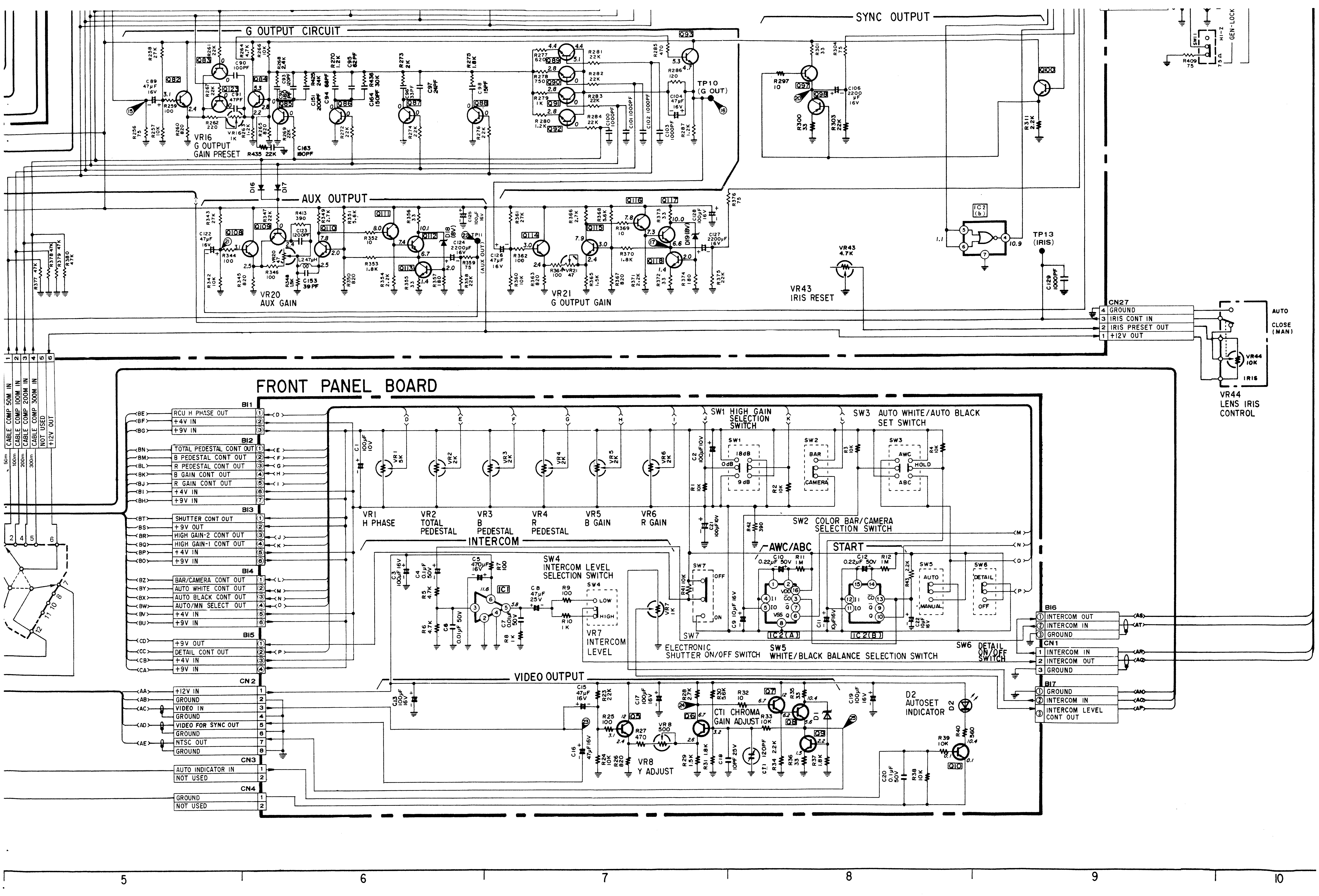
POWER BOARD

IC1	STK-711	F2
IC2	STK-752	F3
IC3	STK-761	F3
D1	DS-442	G2
D2	DBA-40G	F1
D3	ERD28-08	F2
D4	S12KC20	G3
ZD1	GZA6.8Z	F4

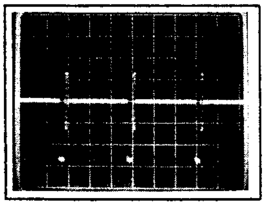

D
C
B
A
1
2
3
4
5
CN106
+9V OUT
+4V OUT
DETAIL CONT IN
SHUTTER CONT IN
R47
10K
GROUND
CONNECTOR BOARD
BI1
① GROUND
② GROUND
③ GROUND
CN1
2 GROUND
1 +12V OUT
BI2
① DATA IN
② CONT IN
③ GROUND
④ GROUND
CN2
1 VIDEO/Y(RCU) OUT
2 GROUND
3 GROUND
4 GROUND
5 +12V IN
BI3
① G/Y OUT
② GROUND
③ B OUT
④ GROUND
⑤ IRIS REMOTE IN
⑥ G/L VIDEO IN
⑦ GROUND
⑧ AUX IN
⑨ GROUND
⑩ R/CHROMA OUT
⑪ GROUND
⑫ TALLY IN
BI4
① +12V IN
② +12V IN
③ +12V IN
BI5
① AUTO INDICATOR OUT
② NOT USED
BI6
① PLAYBACK AUDIO OUT
② RCU INCOM MIC OUT
③ RCU INCOM SPEAKER IN
CN41
NOT USED 1
GROUND 2
NOT USED 3
NOT USED 4
TALLY OUT 5
PLAYBACK AUDIO IN 6
NOT USED 7
NOT USED 8
+12V OUT 9
NOT USED 10
+12V OUT 11
NOT USED 12
NOT USED 13
GROUND 14
CONTROL OUT 15
DATA OUT 16
AUDIO INDICATOR IN 17
GROUND 18
+12V OUT 19
GROUND 20
VIDEO/Y(RCU) IN 21
G/L VIDEO OUT 22
AUX OUT 23
GROUND 24
R/CHROMA IN 25
G/Y IN 26
B IN 27
GROUND 28
GROUND 29
RCU INCOM SPEAKER OUT 30
RCU INCOM MIC IN 31
IRIS REMOTE OUT 32
CAMERA CABLE CONNECTOR
CN13
NOT USED 1
INTERCOM IN 2
RCU INCOM SPEAKER OUT 3
CN15
NOT USED 1
NOT USED 2
NOT USED 3
NOT USED 4
IRIS REMOTE OUT 5
NOT USED 6
TALLY OUT 7
GROUND 8
CN17
GROUD 1
NOT USED 2
AUX OUT 3
TALLY CONTROL
INTERCOM
Q101
Q102
Q103
Q104
Q105
Q106
Q107
C130 4700μF 25V
C131 0.33μF
C132 0.1μF
C133 10μF 16V
R335 1K
R314 5.6K
R315 22K
R316 5.6K
R317 10K
R318 100K
R319 560
C109 1000PF
R320 4.7K
R321 33K
C110 10μF 16V
R322 4.7K
R323 390
R324 10K
C111 4700PF
R325 330
R326 330
C112 10μF 16V
C113 10μF 16V
C108 470μF 16V
R329 270 1W
C114 10μF 16V
R330 39K
R331 33K
R332 3.3K
R333 100K
C115 10μF 16V
C116 10μF 16V
R417 1K
R418 1K
R377 47K
R378 47K
R379 47K
R380 47K
R256 75
11.9
0
10.4
1.5
0.9
0.3
2.6
3.2
6.3
5.7
R313 680
CN18
1 +12V OUT
2 NOT USED
3 TALLY DRIVE OUT
CN19
1 INTERCOM LEVEL CONT IN
2 INTERCOM LEVEL CONT OUT
3 GROUND
CN20
1 GROUND
2 INTERCOM OUT
3 INTERCOM LEVEL CONT IN
CN23
1 CABLE COMP 50M IN
2 CABLE COMP 100M IN
3 CABLE COMP 200M IN
4 CABLE COMP 300M IN
5 NOT USED
6 +12V OUT
50m
100m
200m
300m
D21 POWER INDICATOR
D22 TALLY INDICATOR
CN43 INTERCOM JACK
SW6 CABLE LENGTH COMPENSATION
D
B
E
C

PRODUCT SAFETY NOTICE

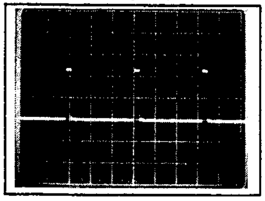
COMPONENT IDENTIFIED WITH THE " ⚠ " MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHN SERVICING ANY OF THESE COMPONENTS, IT IS ESSENCIAL THAT ONLY MANUFACTURE'S SPECIFIED PARTS BE USED


G OUTPUT CIRCUIT
SYNC OUTPUT
AUX OUTPUT
VR16 G OUTPUT GAIN PRESET
TP10 (G OUT)
TP11 (AUX OUT)
TP13 (IRIS)
VR20 AUX GAIN
VR21 G OUTPUT GAIN
VR43 IRIS RESET
IC2 (b)
GEN-LOCK
HI-Z
75Ω
VR44 LENS IRIS CONTROL
AUTO
CLOSE (MAN)
IRIS
CN27
4 GROUND
3 IRIS CONT IN
2 IRIS PRESET OUT
1 +12V OUT
CABLE COMP 50M IN
CABLE COMP 100M IN
CABLE COMP 200M IN
CABLE COMP 300M IN
NOT USED
+12V OUT
50m
100m
200m
300m
FRONT PANEL BOARD
BI1
RCU H PHASE OUT
+4V IN
+9V IN
BI2
TOTAL PEDESTAL CONT OUT
B PEDESTAL CONT OUT
R PEDESTAL CONT OUT
B GAIN CONT OUT
R GAIN CONT OUT
+4V IN
+9V IN
BI3
SHUTTER CONT OUT
+9V OUT
HIGH GAIN-2 CONT OUT
HIGH GAIN-1 CONT OUT
+4V IN
+9V IN
BI4
BAR/CAMERA CONT OUT
AUTO WHITE CONT OUT
AUTO BLACK CONT OUT
AUTO/MN SELECT OUT
+4V IN
+9V IN
BI5
+9V OUT
DETAIL CONT OUT
+4V IN
+9V IN
CN2
+12V IN
GROUND
VIDEO IN
GROUND
VIDEO FOR SYNC OUT
GROUND
NTSC OUT
GROUND
CN3
AUTO INDICATOR IN
NOT USED
CN4
GROUND
NOT USED
VR1 H PHASE
VR2 TOTAL PEDESTAL
VR3 B PEDESTAL
VR4 R PEDESTAL
VR5 B GAIN
VR6 R GAIN
SW1 HIGH GAIN SELECTION SWITCH
18dB
0dB
9dB
SW2 COLOR BAR/CAMERA SELECTION SWITCH
BAR
CAMERA
SW3 AUTO WHITE/AUTO BLACK SET SWITCH
AWC
HOLD
ABC
INTERCOM
SW4 INTERCOM LEVEL SELECTION SWITCH
LOW
HIGH
VR7 INTERCOM LEVEL
IC1
SW7
OFF
ON
ELECTRONIC SHUTTER ON/OFF SWITCH
AWC/ABC
START
IC2(A)
IC2(B)
SW5 WHITE/BLACK BALANCE SELECTION SWITCH
AUTO
MANUAL
SW6 DETAIL ON/OFF SWITCH
DETAIL
OFF
BI6
INTERCOM OUT
INTERCOM IN
GROUND
CN1
INTERCOM IN
INTERCOM OUT
GROUND
BI7
GROUND
INTERCOM IN
INTERCOM LEVEL CONT OUT
VIDEO OUTPUT
VR8 Y ADJUST
CT1 CHROMA GAIN ADJUST
D2 AUTOSET INDICATOR
5
6
7
8
9
10

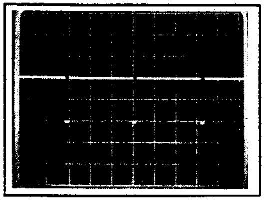
1. 0.1V/DIV, 20μs/DIV



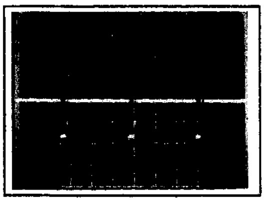
2. 0.5V/DIV, 20μs/DIV



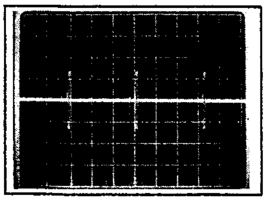
3. 5V/DIV, 20μs/DIV



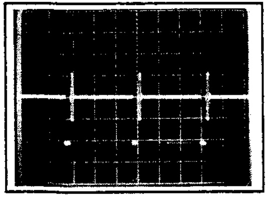
4. 0.1V/DIV, 20μs/DIV



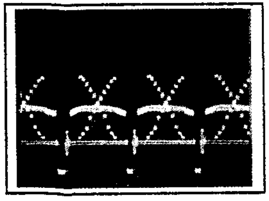
5. 0.5V/DIV, 20μs/DIV



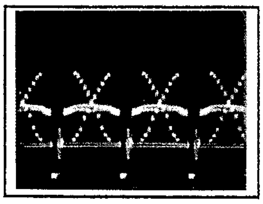
6. 0.2V/DIV, 20μs/DIV



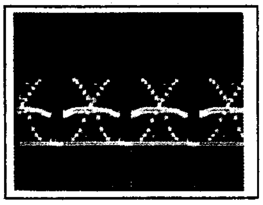
7. 0.2V/DIV, 20μs/DIV



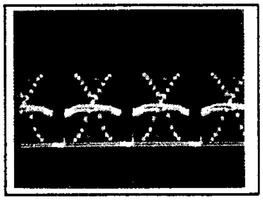
8. 0.2V/DIV, 20μs/DIV



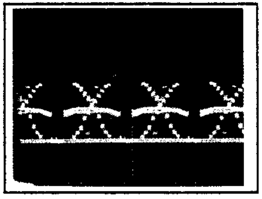
9. 0.2V/DIV, 20μs/DIV



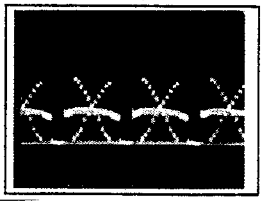
10. 0.2V/DIV, 20μs/DIV



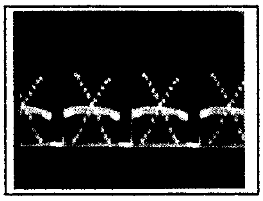
11. 0.5V/DIV, 20μs/DIV



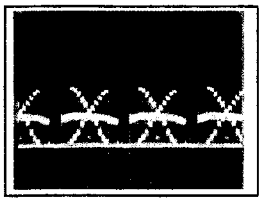
12. 0.2V/DIV, 20μs/DIV



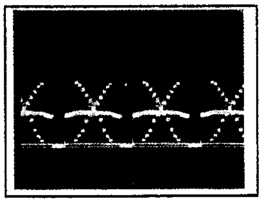
13. 0.2V/DIV, 20μs/DIV



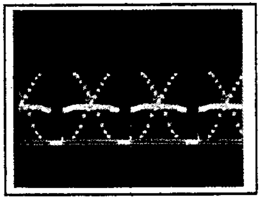
14. 0.5V/DIV 20μs/DIV



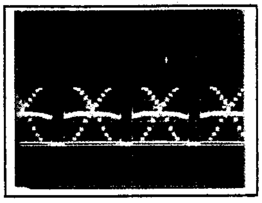
15. 0.2V/DIV, 20μs/DIV



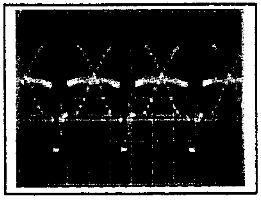
16. 0.2V/DIV, 20μs/DIV



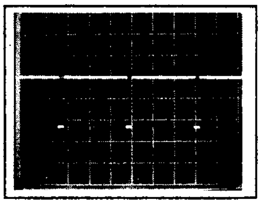
17. 0.5V/DIV, 20μs/DIV



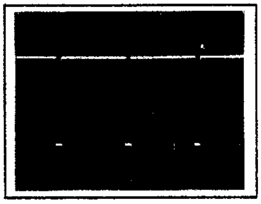
18. 0.2V/DIV, 20μs/DIV



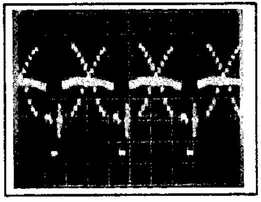
19. 5V/DIV, 20μs/DIV



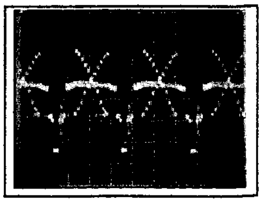
20. 2V/DIV, 20μs/DIV



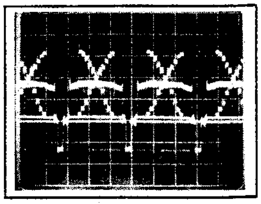
21. 0.2V/DIV, 20μs/DIV



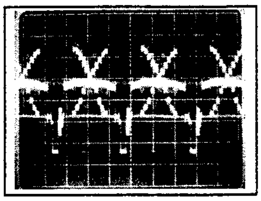
22. 0.2V/DIV, 20μs/DIV



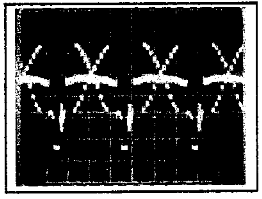
23. 0.2V/DIV, 20μs/DIV



24. 0.2V/DIV, 20μs/DIV



25. 0.2V/DIV, 20μs/DIV



WV-RC36

MAIN BOARD

IC1	DN850	B6
IC2	HD14001BP	C5
Q1	2SC828A-RS	C6
Q2	2SA838-C	C6
Q3	2SC828A-RS	C6
Q4	2SC828A-RS	C7
Q5	2SC828A-RS	C6
Q6	2SC828A-RS	C7
Q7	2SC1216F	B6
Q8	2SC1216F	B6
Q9	2SC1216F	C6
Q10	2SC1216F	B6
Q11	2SC1216F	C6
Q12	2SC1216F	B5
Q13	2SC1216F	C5
Q14	2SC1216F	B5
Q15	2SC1216F	B5
Q16	2SC1216F	C5
Q17	2SC1317-S	B5
Q18	2SC1317-S	B5
Q19	2SC828A-RS	C5
Q20	2SC828A-RS	C5
Q21	2SC828A-RS	C6
Q22	2SC828A-RS	C5
Q23	2SC828A-RS	C6
Q24	2SC828A-RS	C6
Q25	2SC828A-RS	C5
Q26	2SC828A-RS	D6
Q27	2SC828A-RS	D6
Q28	2SC828A-RS	D6
Q29	2SC828A-RS	D5
Q30	2SC828A-RS	D6
Q36	2SC828A-RS	C6
Q37	2SA838-C	C6
Q38	2SC828A-RS	C3
Q39	2SC828A-RS	C3
Q40	2SC828A-RS	C3
Q41	2SC828A-RS	D4
Q42	2SC828A-RS	D3
Q43	2SC828A-RS	C3
Q44	2SC828A-RS	C3
Q45	2SC828A-RS	D3
Q46	2SC828A-RS	D3
Q47	2SC828A-RS	D3
Q48	2SC828A-RS	D3
Q49	2SC828A-RS	D3
Q55	2SC828A-RS	E3
C56	2SC828A-RS	E3
Q57	2SC828A-RS	E3
Q58	2SC1317-S	E3
Q59	2SC1317-S	E3
Q60	2SC828A-RS	C4
Q61	2SC828A-RS	C4
Q62	2SC828A-RS	C4
Q63	2SC828A-RS	C4
Q64	2SC828A-RS	C4
Q65	2SC828A-RS	C4
Q66	2SC828A-RS	C4
Q67	2SC828A-RS	D4
Q68	2SC828A-RS	D4
Q69	2SC828A-RS	D4
Q70	2SC828A-RS	D4
Q71	2SC828A-RS	D4
Q77	2SC828A-RS	D4
Q78	2SC828A-RS	E4
Q79	2SC828A-RS	D4
Q80	2SC1317-S	E4
Q81	2SC1317-S	E4
Q82	2SC828A-RS	C5
Q83	2SC828A-RS	C5
Q84	2SC828A-RS	C5
Q85	2SC828A-RS	C5
Q86	2SC828A-RS	C4
Q87	2SC828A-RS	C4
Q88	2SC828A-RS	C5
Q89	2SC828A-RS	D5
Q90	2SC828A-RS	D5
Q91	2SC828A-RS	D4
Q92	2SC828A-RS	D5
Q93	2SC828A-RS	D5
Q97	2SC1317-S	D6
Q98	2SA719-QR	E6
Q100	2SC828A-RS	D5
Q101	2SA564A-RS	C4
Q102	2SC828A-RS	C4
Q103	2SC828A-RS	C6
Q104	2SC828A-RS	C6
Q105	2SC828A-RS	C6
Q106	2SC828A-RS	C6
Q107	2SC828A-RS	C6
Q108	2SC828A-RS	E6
Q109	2SC828A-RS	E6
Q110	2SC828A-RS	E6
Q111	2SC828A-RS	E6
Q112	2SC1317-S	E6
Q113	2SC1317-S	E6
Q114	2SC828A-RS	D5
Q115	2SC828A-RS	D5
Q116	2SC828A-RS	D5
Q117	2SC1317-S	D5
Q118	2SC1317-S	D5
Q120	2SC828A-RS	C6
Q121	2SC828A-RS	C3
Q122	2SC828A-RS	C4
Q123	2SC828A-RS	C5
D1	MA4082L	B5
D8	MA4082L	E3
D12	MA4082L	E4
D16	MA165	D6
D17	MA165	E6
D18	MA4082L	E6
D19	MA4082L	D5

MICROPROCESSOR BOARD

IC1	M5231L	C2
IC2	TC4051B	C2
IC3	TC4051B	C2
IC4	TL7705CP	C2
IC5	M46015	B2
IC6	NJM723	D1
IC7	NJM2904	B2

Q5	2SB793A-RS	C1
Q6	2SD636-Q	B1
Q7	2SD636-Q	B2
Q8	2SB793A-RS	D1
Q9	2SB793A-RS	D2
Q10	2SD973A-RS	D2
D1	MA165	D2
D2	MA165	D2
D3	MA165	D2
D4	MA165	D2
D5	MA165	D2

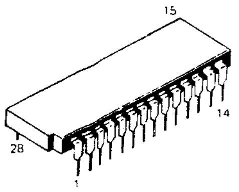
FRONT PANEL BOARD

IC1	YFNJM386D	A3
IC2	MN4538B	A6
Q5	2SD636-Q	B3
Q6	2SD636-Q	B4
Q7	2SD636-Q	B4
Q8	2SD638-RS	A4
Q9	2SD638-RS	A4
Q10	2SD636-Q	A6
D1	MA4082L	A4
D2	LN31-GCP	A6

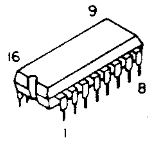
POWER BOARD

IC1	STK-711	E7
IC2	STK-752	E8
IC3	STK-761	D8
D1	DS-442	D8
D2	DBA-40G	D8
D3	ERD28-08	D7
D4	S12KC20	D7
ZD1	GZA6.8Z	D8

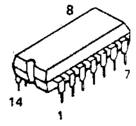
M46015



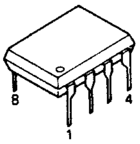
MN4538B
M5231L
TC4051B



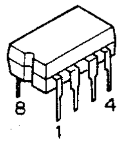
DN-850
YWHD14001BP
NJM723



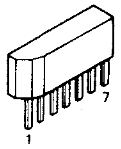
TL7705CP
NJM2904



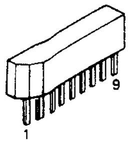
YFNJM386D



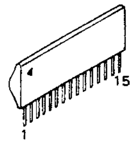
STK-761



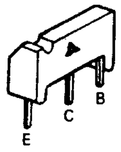
STK-752



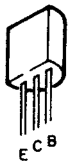
STK-711



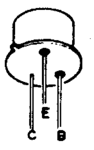
2SB793A-RS
2SD636-Q
2SD973A-RS
2SD638-RS



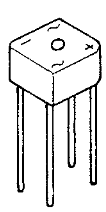
2SA564A-RS
2SA838-BC
2SC828A-RS
2SC1317-RS



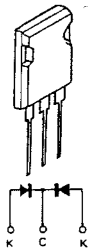
2SC1216F



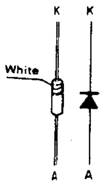
DBA-40G



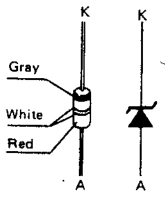
S12KC20



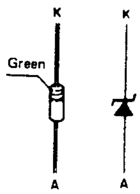
MA165



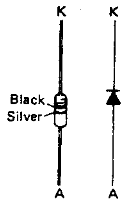
MA4082L



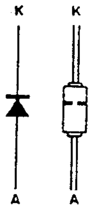
GZA6.8Z



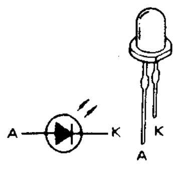
DS-442



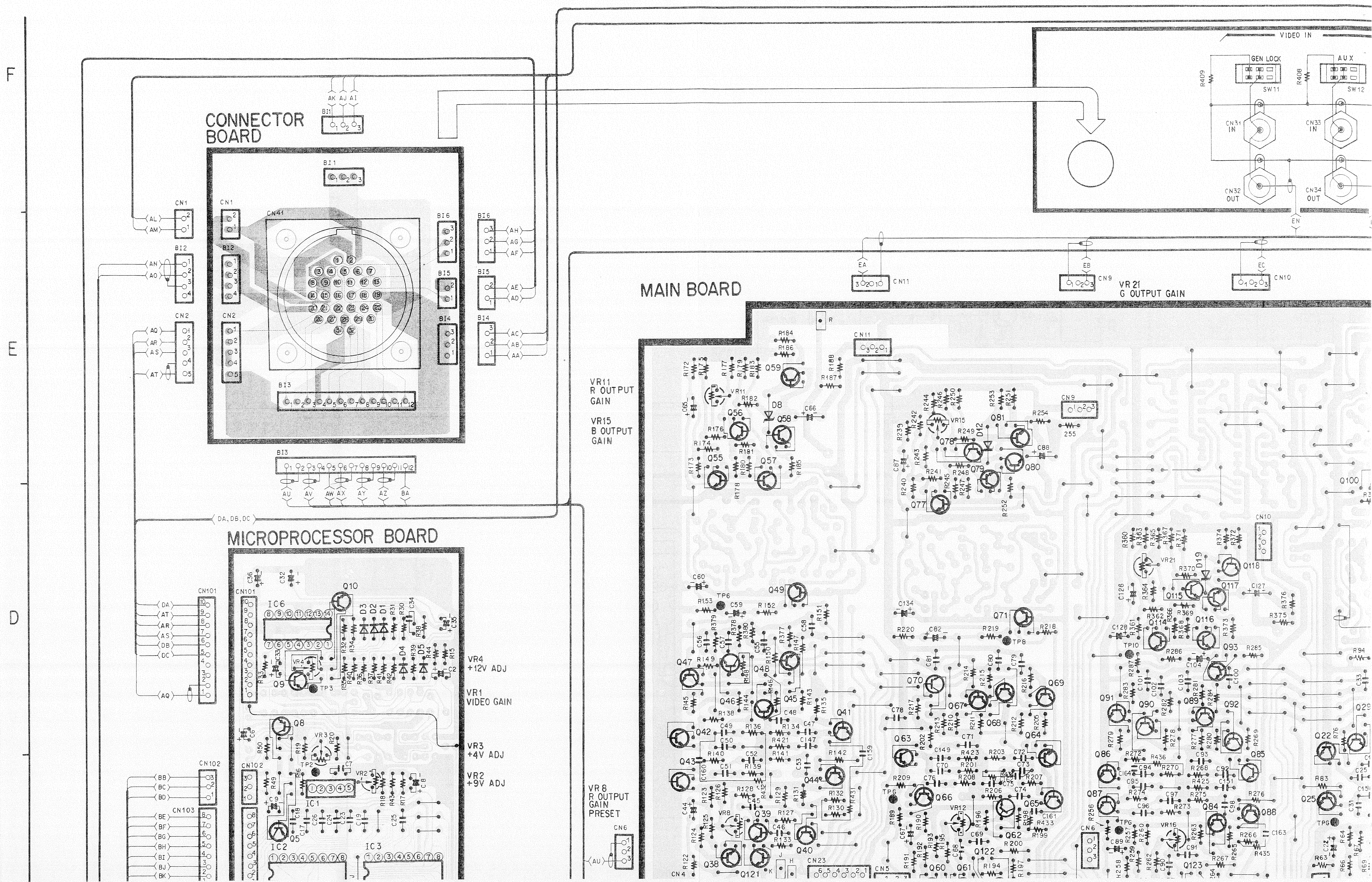
ERD28-08



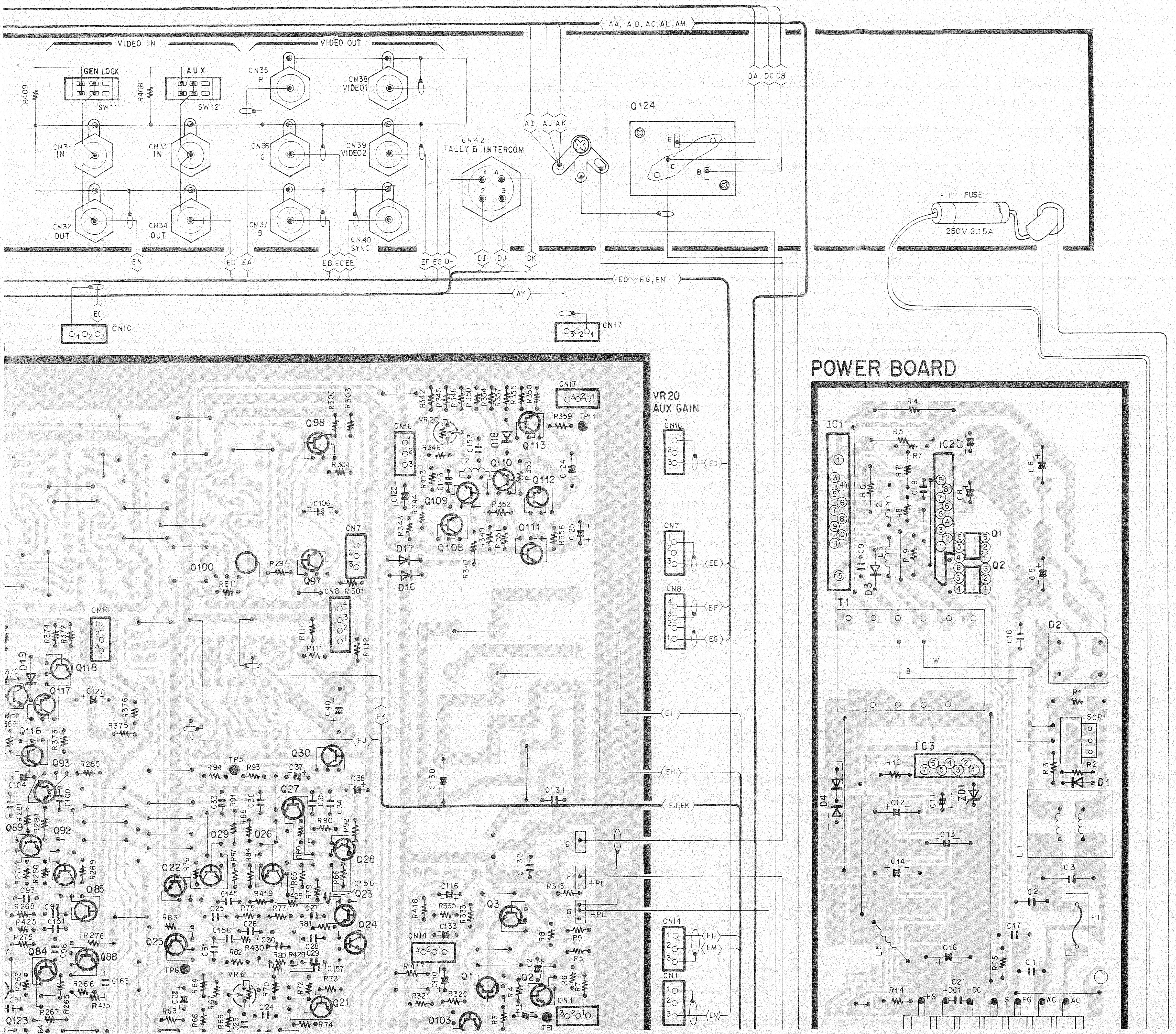
LN31-GCP

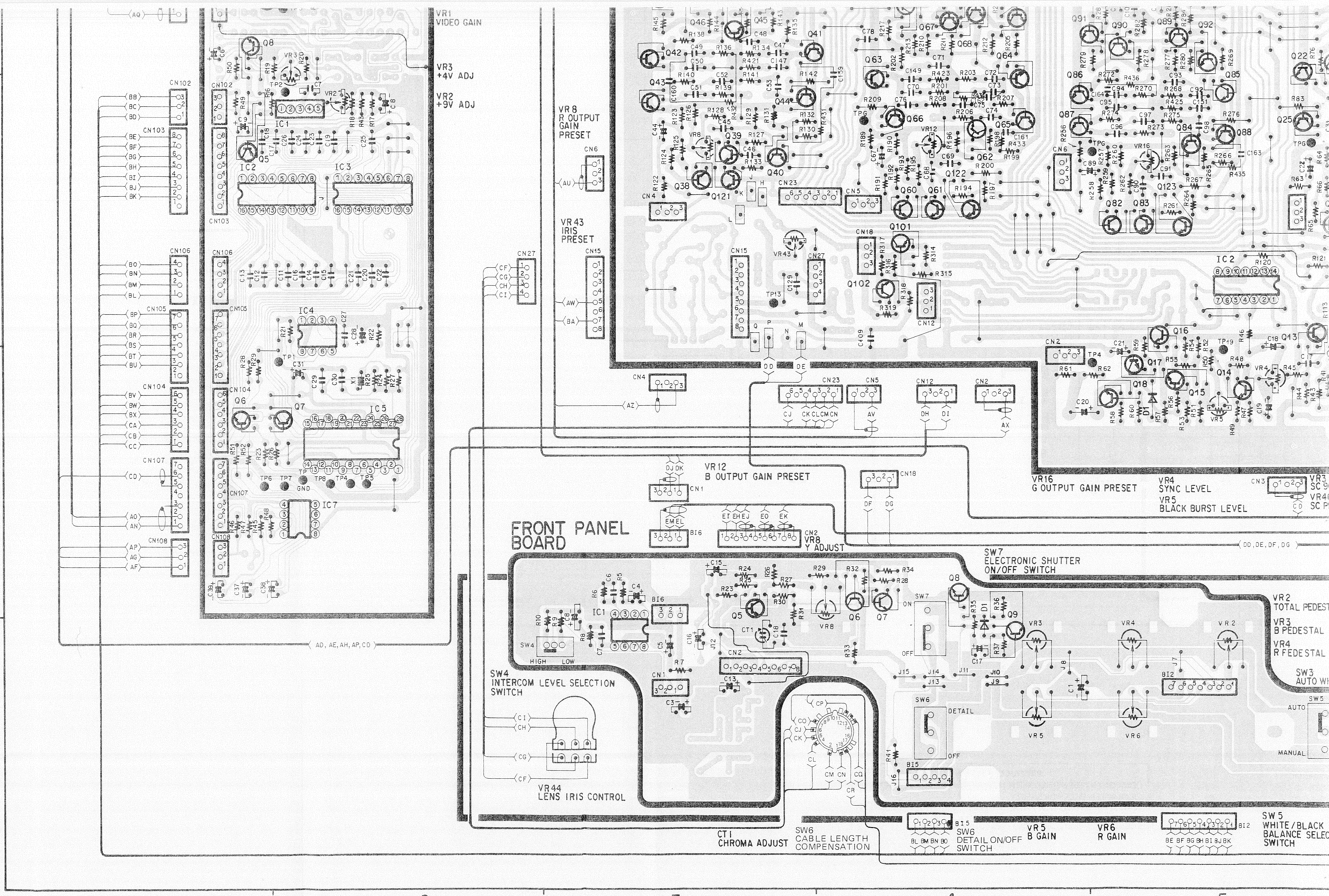


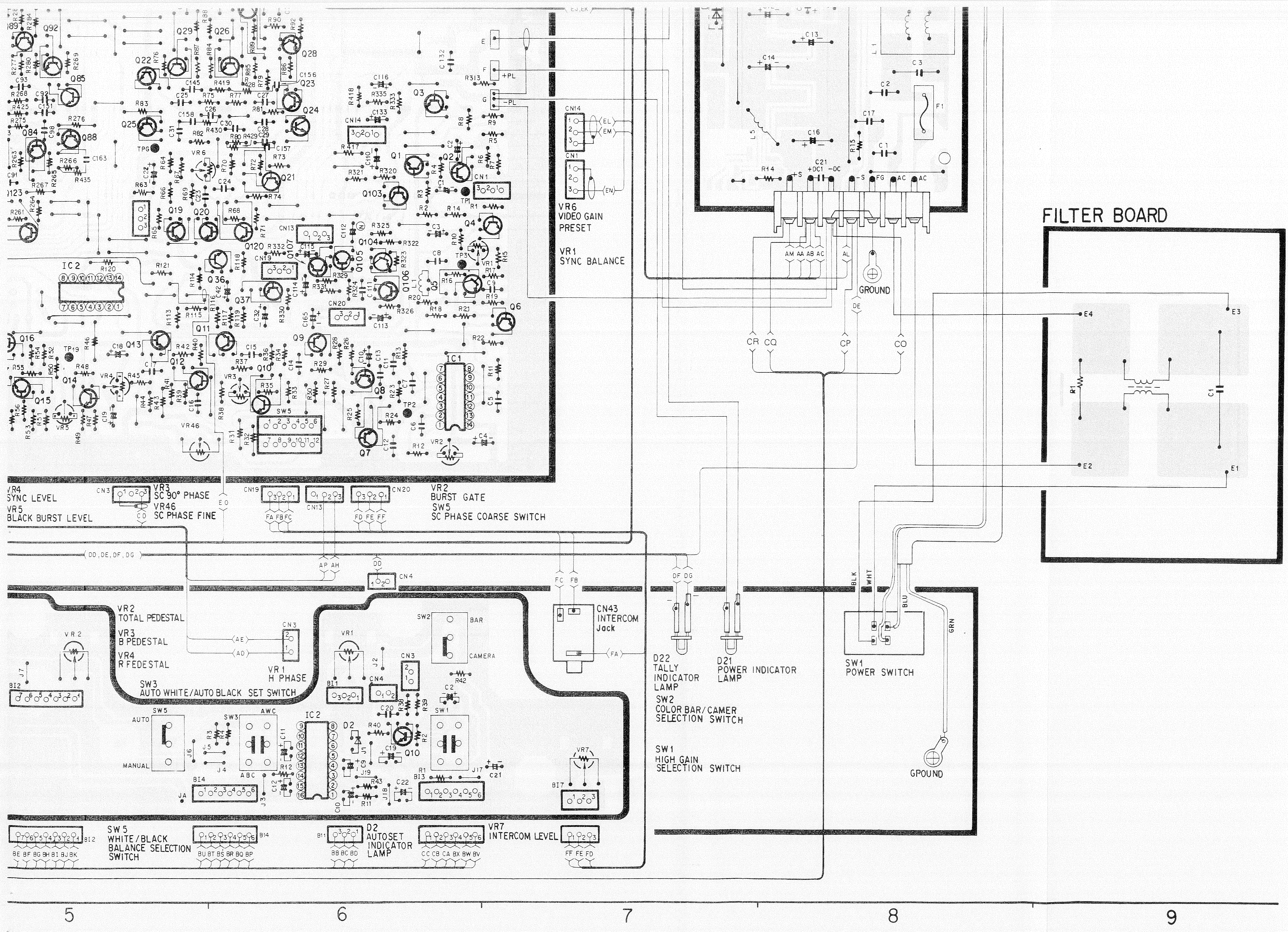
CONDUCTOR VIEW OF REMOTE CONTR


F
E
D
CONNECTOR BOARD
CN41
BI1
BI2
BI3
BI4
BI5
BI6
CN1
CN2
MICROPROCESSOR BOARD
IC1
IC2
IC3
IC6
CN101
CN102
CN103
VR4 +12V ADJ
VR1 VIDEO GAIN
VR3 +4V ADJ
VR2 +9V ADJ
DA, DB, DC
MAIN BOARD
VR11 R OUTPUT GAIN
VR15 B OUTPUT GAIN
VR8 R OUTPUT GAIN PRESET
VR 21 G OUTPUT GAIN
CN9
CN10
CN11
CN6
VIDEO IN
GEN LOCK
AUX
SW11
SW12
R409
R408
CN31 IN
CN33 IN
CN32 OUT
CN34 OUT
EA
EB
EC
EN

EMOTE CONTROL UNIT WV-RC36

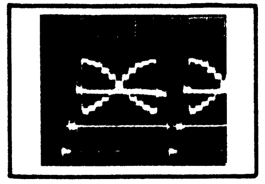

VIDEO IN
VIDEO OUT
AA, AB, AC, AL, AM
GEN LOCK
SW11
AUX
SW12
R409
R408
CN31 IN
CN32 OUT
CN33 IN
CN34 OUT
CN35 R
CN36 G
CN37 B
CN38 VIDEO1
CN39 VIDEO2
CN40 SYNC
CN42 TALLY & INTERCOM
AI AJ AK
DA DC DB
Q124
E
C
B
F1 FUSE
250V 3.15A
EN
ED EA
EB EC EE
EF EG DH
DI DJ
DK
ED~EG, EN
AY
EC
CN10
CN17
VR20 AUX GAIN
CN16
CN7
CN8
EE
EF
EG
EI
EH
EJ, EK
EJ
EK
CN14
EL
EM
CN1
EN
+PL
-PL
TP1
TP5
TPG
VR6
Q98
Q100
Q97
Q108
Q109
Q110
Q111
Q112
Q113
Q118
Q117
Q116
Q93
Q89
Q92
Q85
Q84
Q88
Q123
Q22
Q25
Q29
Q26
Q27
Q28
Q30
Q23
Q24
Q21
Q1
Q2
Q3
Q103
D16
D17
D18
D19
POWER BOARD
IC1
IC2
IC3
Q1
Q2
T1
D1
D2
D3
D4
ZD1
SCR1
L1
L2
L3
L5
F1
+S
+DC1
-DC
-S
FG
AC


VR1
VIDEO GAIN
VR3
+4V ADJ
VR2
+9V ADJ
VR8
R OUTPUT
GAIN
PRESET
VR43
IRIS
PRESET
VR12
B OUTPUT GAIN PRESET
VR16
G OUTPUT GAIN PRESET
VR4
SYNC LEVEL
VR5
BLACK BURST LEVEL
FRONT PANEL
BOARD
VR8
Y ADJUST
SW7
ELECTRONIC SHUTTER
ON/OFF SWITCH
VR2
TOTAL PEDEST
VR3
B PEDESTAL
VR4
R PEDESTAL
SW3
AUTO WH
SW4
INTERCOM LEVEL SELECTION
SWITCH
HIGH
LOW
VR44
LENS IRIS CONTROL
CT1
CHROMA ADJUST
SW6
CABLE LENGTH
COMPENSATION
SW6
DETAIL ON/OFF
SWITCH
DETAIL
OFF
VR5
B GAIN
VR6
R GAIN
SW5
WHITE/BLACK
BALANCE SELEC
SWITCH
AUTO
MANUAL
ON
OFF
AD, AE, AH, AP, CD
DD, DE, DF, DG
CN102
CN103
CN106
CN105
CN104
CN107
CN108
CN27
CN6
CN15
CN4
CN23
CN5
CN12
CN2
CN18
CN1
CN3
BI6
BI5
BI2
IC1
IC2
IC3
IC4
IC5
IC7
TP1
TP2
TP4
TP6
TP7
TP8
TP13
TP19
GND
C
B
A
1
2
3
4
5

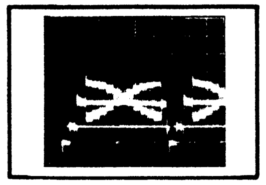

FILTER BOARD
E1
E2
E3
E4
R1
C1
VR6
VIDEO GAIN
PRESET
VR1
SYNC BALANCE
CN14
CN1
EL
EM
EN
GROUND
AM AA AB AC
AL
DE
CR CQ
CP
CO
+S
+DC1 -DC
-S
FG
AC
AC
VR4
SYNC LEVEL
VR5
BLACK BURST LEVEL
CN3
VR3
SC 90° PHASE
VR46
SC PHASE FINE
CN19
CN13
CN20
VR2
BURST GATE
SW5
SC PHASE COARSE SWITCH
IC1
IC2
DD, DE, DF, DG
AP AH
DD
CN4
FC FB
DF DG
VR2
TOTAL PEDESTAL
VR3
B PEDESTAL
VR4
R PEDESTAL
VR1
H PHASE
SW3
AUTO WHITE/AUTO BLACK SET SWITCH
SW2
BAR
CAMERA
CN43
INTERCOM
Jack
FA
D22
TALLY
INDICATOR
LAMP
D21
POWER INDICATOR
LAMP
SW2
COLOR BAR/CAMER
SELECTION SWITCH
SW1
HIGH GAIN
SELECTION SWITCH
SW1
POWER SWITCH
BLK
WHT
BLU
GRN
GPOUND
AUTO
MANUAL
AWC
ABC
VR7
SW5
WHITE/BLACK
BALANCE SELECTION
SWITCH
D2
AUTOSET
INDICATOR
LAMP
VR7
INTERCOM LEVEL
BI1
BI2
BI3
BI4
BI7
BE BF BG BH BI BJ BK
BU BT BS BR BQ BP
BB BC BD
CC CB CA BX BW BV
FF FE FD
5
6
7
8
9

SCHEMATIC DIAGRAM

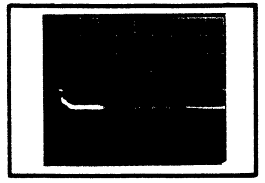
1 0.2V/DIV, 10µs/DIV



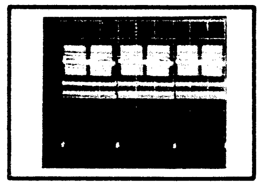
2 0.1V/DIV, 10µs/DIV



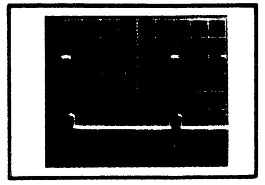
3 0.5V/DIV, 5ms/DIV



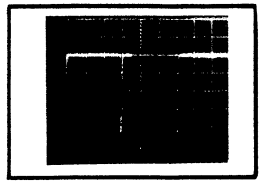
4 0.5V/DIV, 5ms/DIV



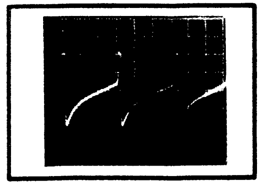
5 2V/DIV, 10µs/DIV



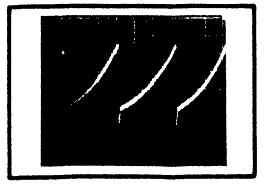
6 2V/DIV, 5ms/DIV



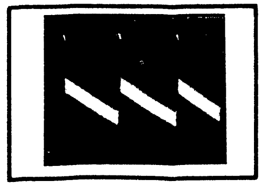
7 0.2V/DIV, 5ms/DIV



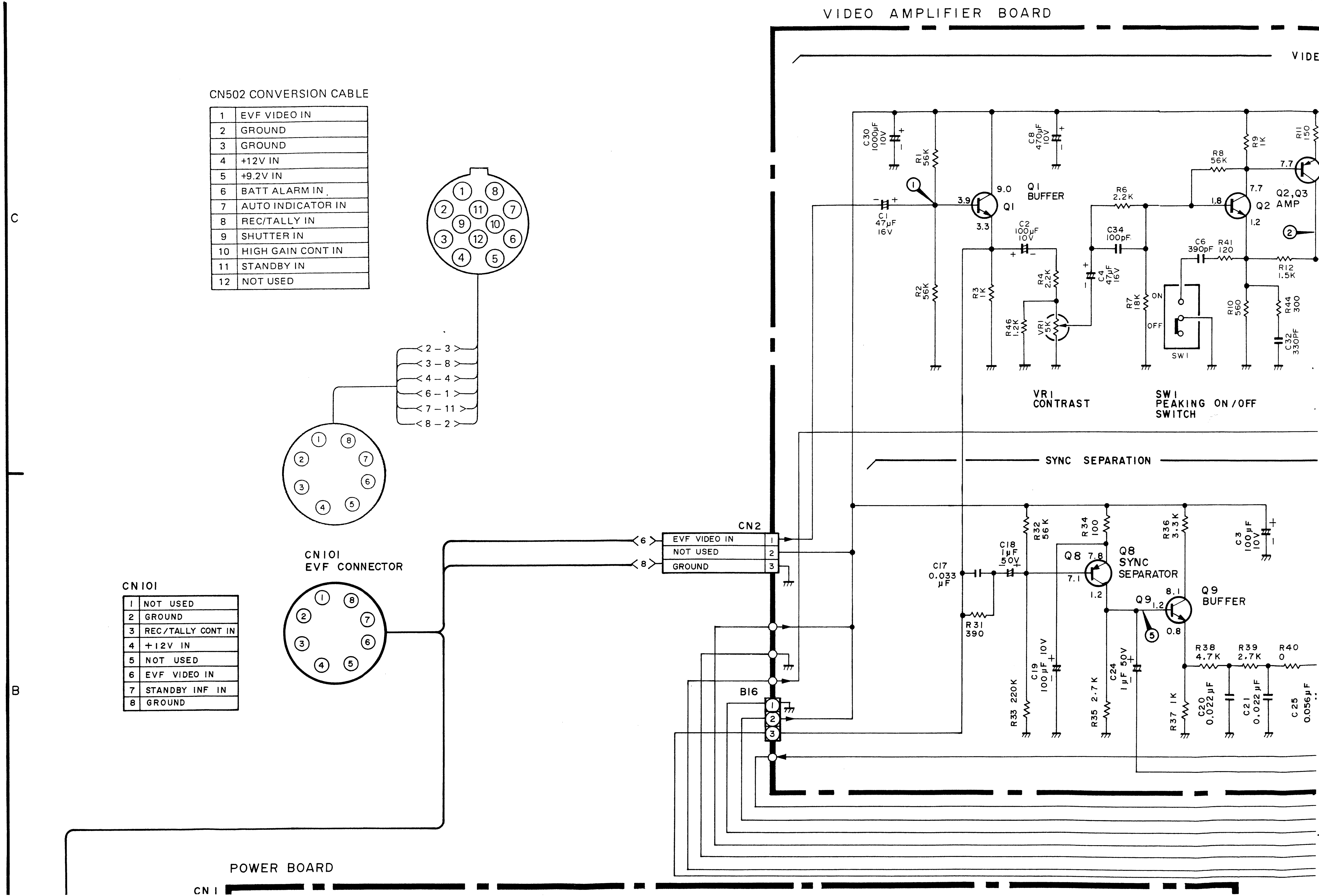
8 0.05V/DIV, 5ms/DIV



9 1V/DIV, 5ms/DIV



10 2V/DIV, 10µs/DIV


C
B
VIDEO AMPLIFIER BOARD
VIDE
C30 1000µF 10V
R1 56K
C8 470µF 10V
R9 1K
R11 150
R8 56K
7.7
①
3.9
9.0
Q1
Q1 BUFFER
3.3
C1 47µF 16V
C2 100µF 10V
R6 2.2K
C34 100pF
1.8
7.7
Q2
Q2,Q3 AMP
1.2
②
C6 390pF
R41 120
R12 1.5K
R2 56K
R3 1K
R4 2.2K
C4 47µF 16V
R46 1.2K
VR1 5K
R7 18K
ON
OFF
SW1
R10 560
R44 300
C32 330PF
VR1 CONTRAST
SW1 PEAKING ON/OFF SWITCH
SYNC SEPARATION
R32 56K
R34 100
Q8 7.8
Q8 SYNC SEPARATOR
R36 3.3K
C3 100µF 10V
C17 0.033µF
C18 1µF 50V
7.1
1.2
Q9
1.2
8.1
Q9 BUFFER
0.8
⑤
R31 390
R38 4.7K
R39 2.7K
R40 0
R33 220K
C19 100µF 10V
R35 2.7K
C24 1µF 50V
R37 1K
C20 0.022µF
C21 0.022µF
C25 0.056µF
CN2
EVF VIDEO IN 1
NOT USED 2
GROUND 3
<6>
<8>
B16
①
②
③
<2 – 3>
<3 – 8>
<4 – 4>
<6 – 1>
<7 – 11>
<8 – 2>
CN101 EVF CONNECTOR
POWER BOARD
CN1

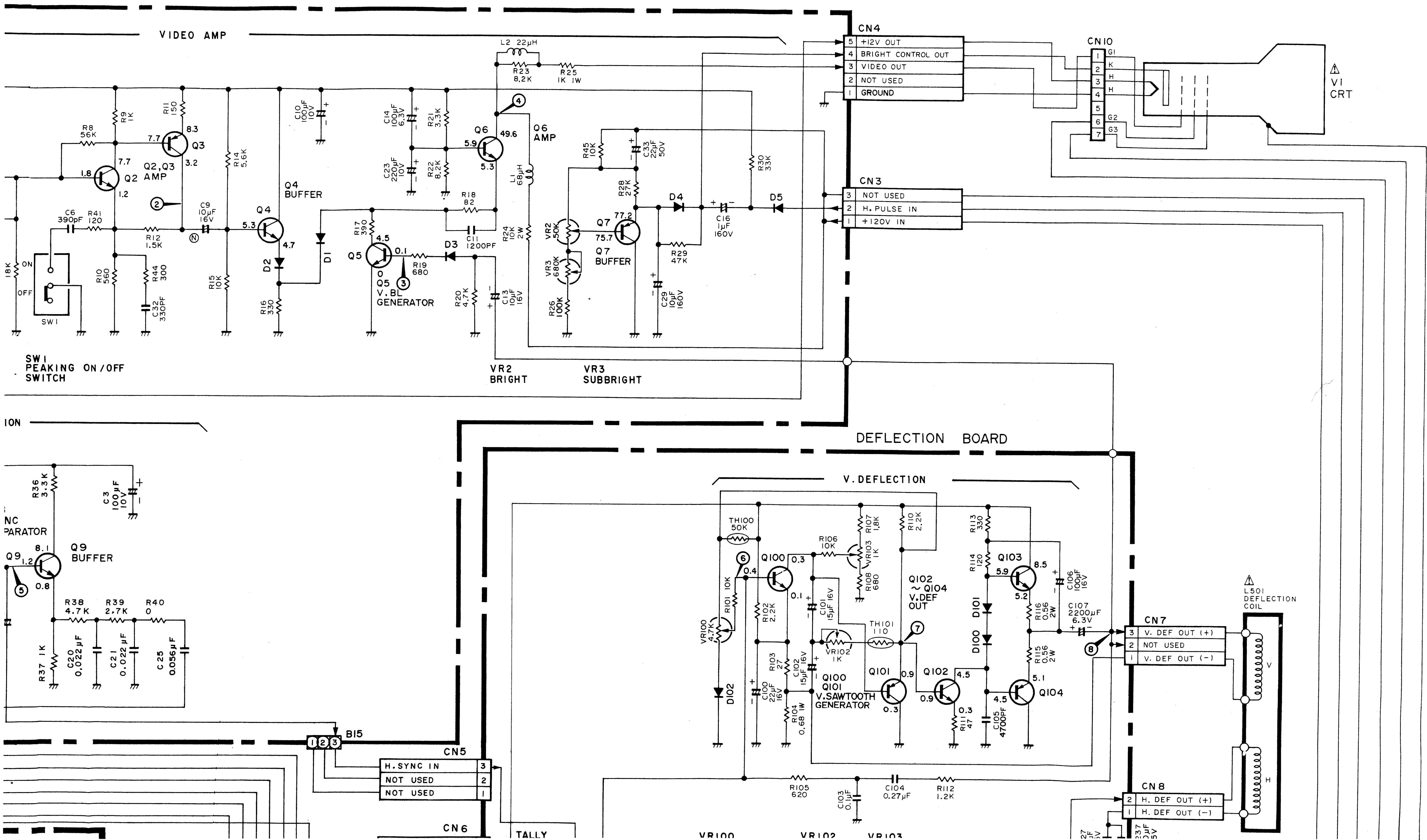
CN502 CONVERSION CABLE

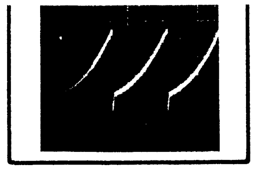
1	EVF VIDEO IN
2	GROUND
3	GROUND
4	+12V IN
5	+9.2V IN
6	BATT ALARM IN
7	AUTO INDICATOR IN
8	REC/TALLY IN
9	SHUTTER IN
10	HIGH GAIN CONT IN
11	STANDBY IN
12	NOT USED

CN101

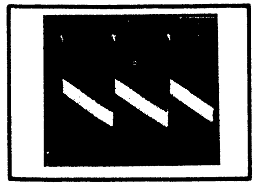
1	NOT USED
2	GROUND
3	REC/TALLY CONT IN
4	+12V IN
5	NOT USED
6	EVF VIDEO IN
7	STANDBY INF IN
8	GROUND

IC DIAGRAM OF 5″ VIEWFINDER WV-VF65B

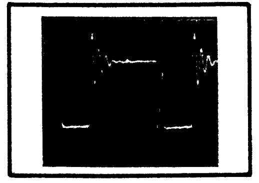

VIDEO AMP
CN4
5 +12V OUT
4 BRIGHT CONTROL OUT
3 VIDEO OUT
2 NOT USED
1 GROUND
CN10
G1
K
H
H
G2
G3
VI
CRT
L2 22μH
R23 8.2K
R25 1K 1W
R8 56K
R9 1K
R11 150
8.3
7.7
Q3
3.2
Q2,Q3 AMP
1.8
Q2
1.2
R14 5.6K
C10 100μF 10V
C14 100μF 6.3V
R21 3.3K
Q6
5.9
49.6
5.3
Q6 AMP
C23 220μF 10V
R22 8.2K
R45 10K
C33 22μF 50V
R30 33K
R28 27K
CN3
3 NOT USED
2 H. PULSE IN
1 +120V IN
C6 390pF
R41 120
R12 1.5K
C9 10μF 16V
Q4 BUFFER
Q4
5.3
4.7
R18 82
C11 1200PF
L1 68μH
R24 10K 2W
D4
D5
C16 1μF 160V
VR2 50K
Q7
77.2
75.7
Q7 BUFFER
R29 47K
R17 390
Q5
4.5
0.1
0
R19 680
D3
D1
D2
R16 330
R10 560
R44 300
C32 330PF
R15 10K
Q5 V.BL GENERATOR
R20 4.7K
C13 10μF 16V
VR3 680K
R26 100K
C29 10μF 160V
18K
ON
OFF
SW1
SW1 PEAKING ON/OFF SWITCH
VR2 BRIGHT
VR3 SUBBRIGHT
ION
DEFLECTION BOARD
V.DEFLECTION
R36 3.3K
C3 100μF 10V
NC
PARATOR
Q9
8.1
1.2
0.8
Q9 BUFFER
R38 4.7K
R39 2.7K
R40 0
R37 1K
C20 0.022μF
C21 0.022μF
C25 0.056μF
TH100 50K
R107 1.8K
R110 2.2K
R113 330
R106 10K
VR103 1K
Q100
0.3
0.4
0.1
R108 680
Q102 ~ Q104 V.DEF OUT
R114 120
Q103
5.9
8.5
5.2
C106 100μF 16V
R101 10K
VR100 4.7K
R102 2.2K
C101 15μF 16V
TH101 110
VR102 1K
D101
D100
R116 0.56 2W
C107 2200μF 6.3V
R115 0.56 2W
CN7
3 V. DEF OUT (+)
2 NOT USED
1 V. DEF OUT (−)
L501 DEFLECTION COIL
V
H
R103 27
C102 15μF 16V
Q100 Q101 V.SAWTOOTH GENERATOR
Q101
0.9
Q102
4.5
0.9
0.3
5.1
4.5
Q104
D102
C100 22μF 16V
R104 0.68 1W
R111 47
C105 4700PF
B15
CN5
H.SYNC IN 3
NOT USED 2
NOT USED 1
CN6
TALLY
R105 620
C103 0.1μF
C104 0.27μF
R112 1.2K
CN8
2 H. DEF OUT (+)
1 H. DEF OUT (−)
VR100
VR102
VR103
④
②
Ⓝ
③
⑤
⑥
⑦
⑧



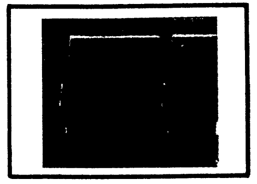
9 1V/DIV, 5ms/DIV



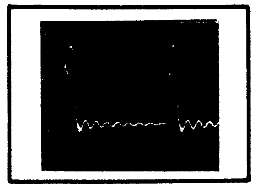
10 2V/DIV, 10μs/DIV



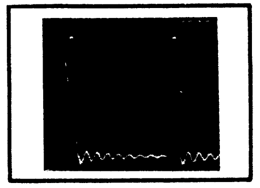
11 20V/DIV, 10μs/DIV



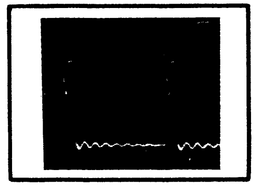
12 100V/DIV, 10μs/DIV

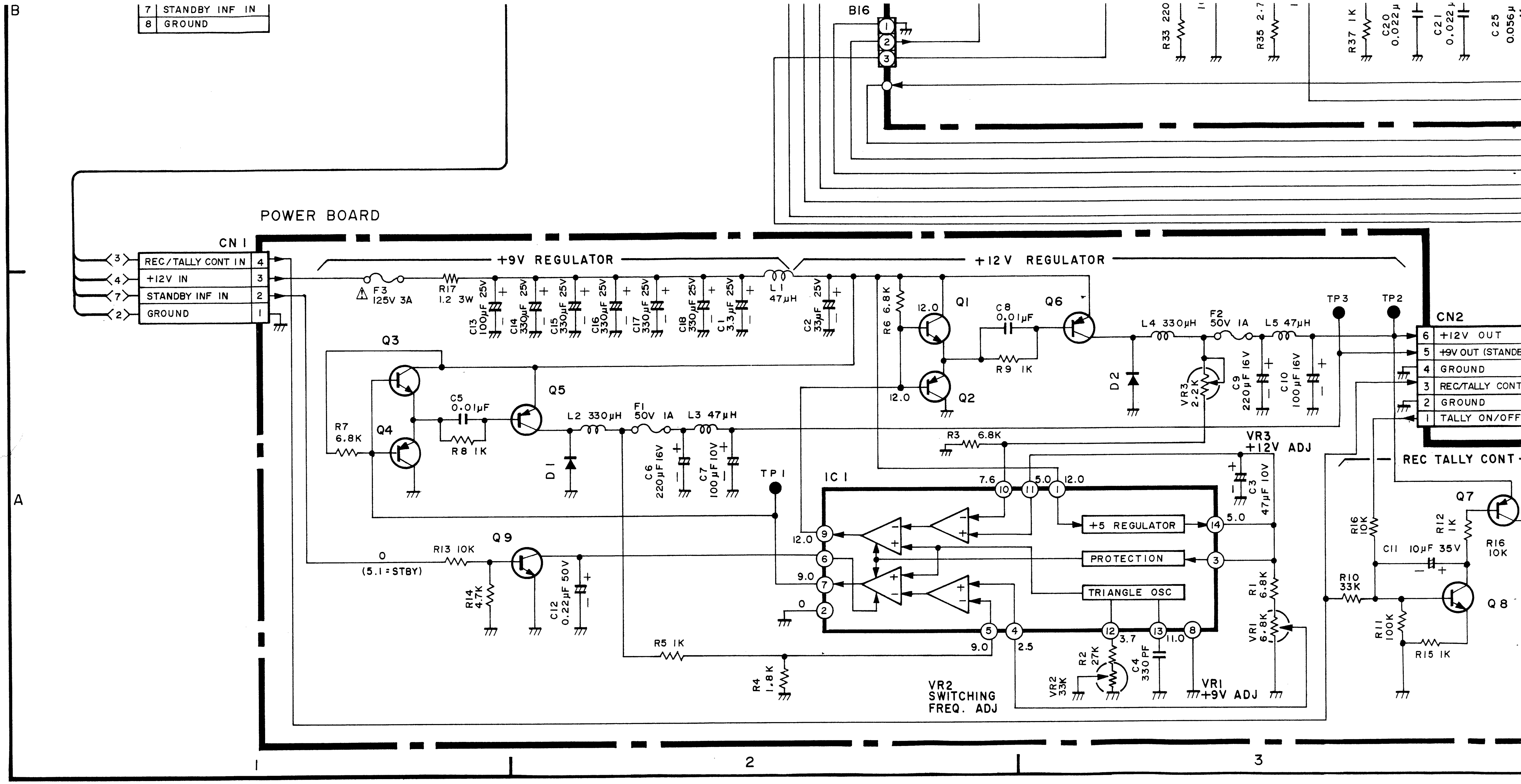


13 20V/DIV, 10μs/DIV



14 20V/DIV, 10μs/DIV





DEFLECTION BOARD

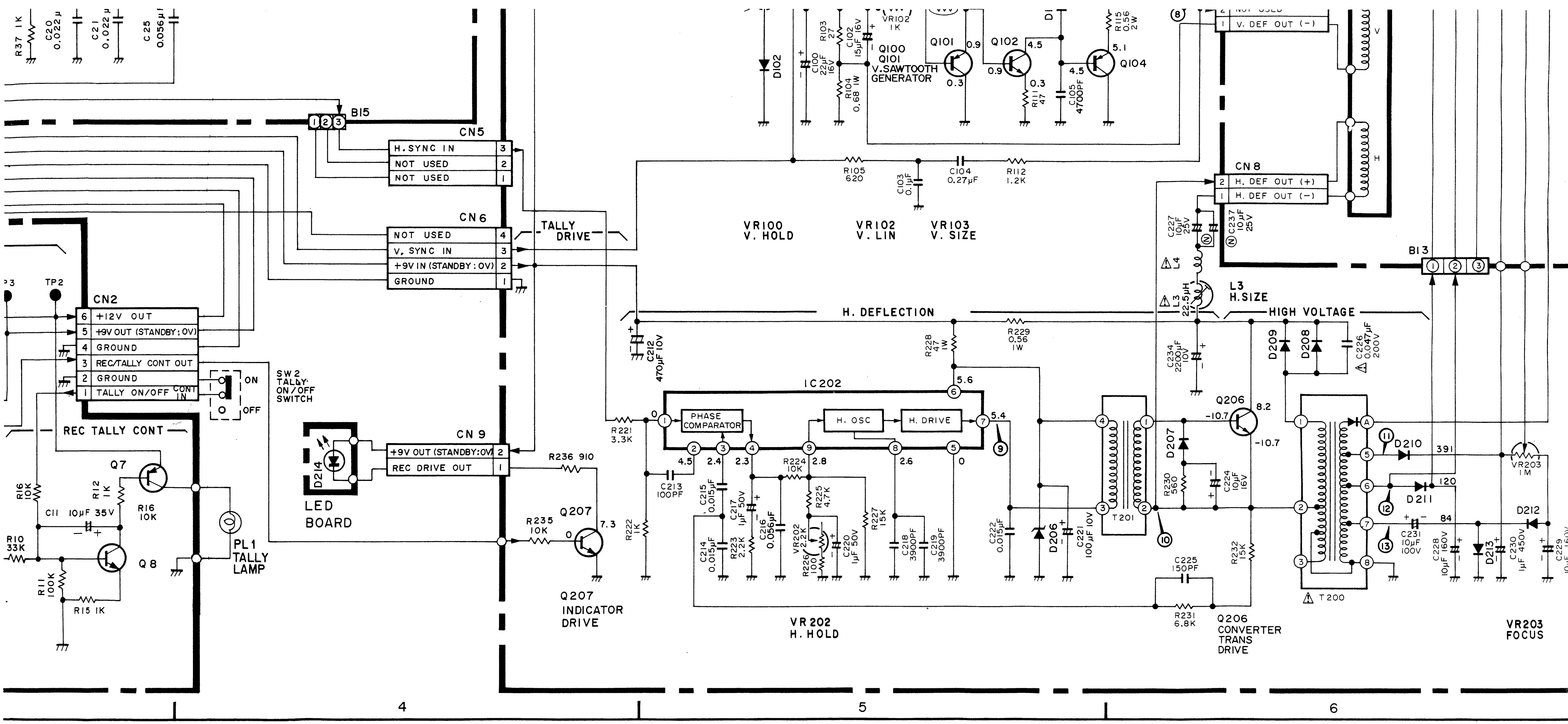
IC202	AN5750	A5
Q100	2SD636-QRS	B5
Q101	2SB641-QRS	B5
Q102	2SD636-QRS	B5
Q103	2SC1226-QR	B6
Q104	2SA684-QR	B6
Q202	2SB641-QRS	B4
Q203	2SD636-QRS	B5
Q206	2SD772B	A6
Q207	2SD1205-R	A3
D100	MA161	B5
D101	MA161	B5
D102	MA165	B5
D206	YUDX068	A5
D207	YUDERB24-04C	A6
D208	YUDU06C	A6
D209	OA91	A6
D210	YUDERB24-04C	A6
D211	YUDERB24-04C	A6
D212	YUDERB24-04C	A6
D213	YUDERB24-04C	A6
D214	LN23L	A4

VIDEO AMPLIFIER BOARD

Q1	2SD636-QRS	C3
Q2	2SD636-QRS	C3
Q3	2SB641-QRS	C3
Q4	2SD636-QRS	C4
Q5	2SC1216-FS	C4
Q6	2SC2258QRS	C4
Q7	2SA1018A	C4
Q8	2SB641-QRS	B3
Q9	2SD636-QRS	B3
Q10	2SD661-TU	B3
D1	MA161	C4
D2	MA161	C4
D3	MA162	C4
D4	YUDERB24-04C	C5
D5	OA91	C5

POWER BOARD

IC1	NJM2048MC	A2, A3
Q1	2SD637-RS	A2
Q2	2SB642-QRS	A2
Q3	2SD637-RS	A1
Q4	2SB642-QRS	A1
Q5	2SB929-PQ	A2
Q6	2SB929-PQ	A3
Q7	2SB793-RS	A3
Q8	2SD1205-QR	A3
Q9	2SD636-QRS	A2
D1	EK14	A2
D2	EK14	A3


R37 1K
C20 0.022μ
C21 0.022μ
C25 0.056μF
B15
CN5
H.SYNC IN
NOT USED
NOT USED
CN6
NOT USED
V. SYNC IN
+9V IN (STANDBY : 0V)
GROUND
TALLY DRIVE
CN2
+12V OUT
+9V OUT (STANDBY : 0V)
GROUND
REC/TALLY CONT OUT
GROUND
TALLY ON/OFF
TP2
SW2 TALLY ON/OFF SWITCH
ON
OFF
CONT IN
REC TALLY CONT
Q7
Q8
R16 10K
R12 1K
C11 10μF 35V
R10 33K
R11 100K
R15 1K
PL1 TALLY LAMP
D214
LED BOARD
CN 9
+9V OUT (STANDBY:0V)
REC DRIVE OUT
R236 910
R235 10K
Q207
Q207 INDICATOR DRIVE
D102
C100 22μF 16V
R103 27
C102 15μF 16V
VR102 1K
R104 0.68 1W
Q100 Q101 V.SAWTOOTH GENERATOR
Q101
Q102
Q104
R111 47
C105 4700PF
R115 0.56 2W
R105 620
C103 0.1μF
C104 0.27μF
R112 1.2K
VR100 V. HOLD
VR102 V. LIN
VR103 V. SIZE
V. DEF OUT (−)
CN8
H. DEF OUT (+)
H. DEF OUT (−)
C227 10μF 25V
C237 10μF 25V
L4
L3 22.5μH
L3 H.SIZE
H. DEFLECTION
HIGH VOLTAGE
C212 470μF 10V
R228 47 1W
R229 0.56 1W
C234 2200μF 10V
D209
D208
C226 0.047μF 200V
B13
IC202
PHASE COMPARATOR
H. OSC
H. DRIVE
R221 3.3K
C213 100PF
R222 1K
C215 0.015μF
C214 0.015μF
R223 2.2K
C217 1μF 50V
C216 0.056μF
R224 10K
R225 4.7K
VR202 2.2K
R226 100
C220 1μF 50V
R227 15K
C218 3900PF
C219 3900PF
C222 0.015μF
D206
C221 100μF 10V
T201
D207
R230 560
C224 10μF 16V
Q206
C225 150PF
R231 6.8K
R232 15K
Q206 CONVERTER TRANS DRIVE
VR 202 H. HOLD
T200
D210
D211
D212
D213
C231 10μF 100V
C228 10μF 160V
C230 1μF 450V
VR203 1M
VR203 FOCUS
4
5
6

ARD

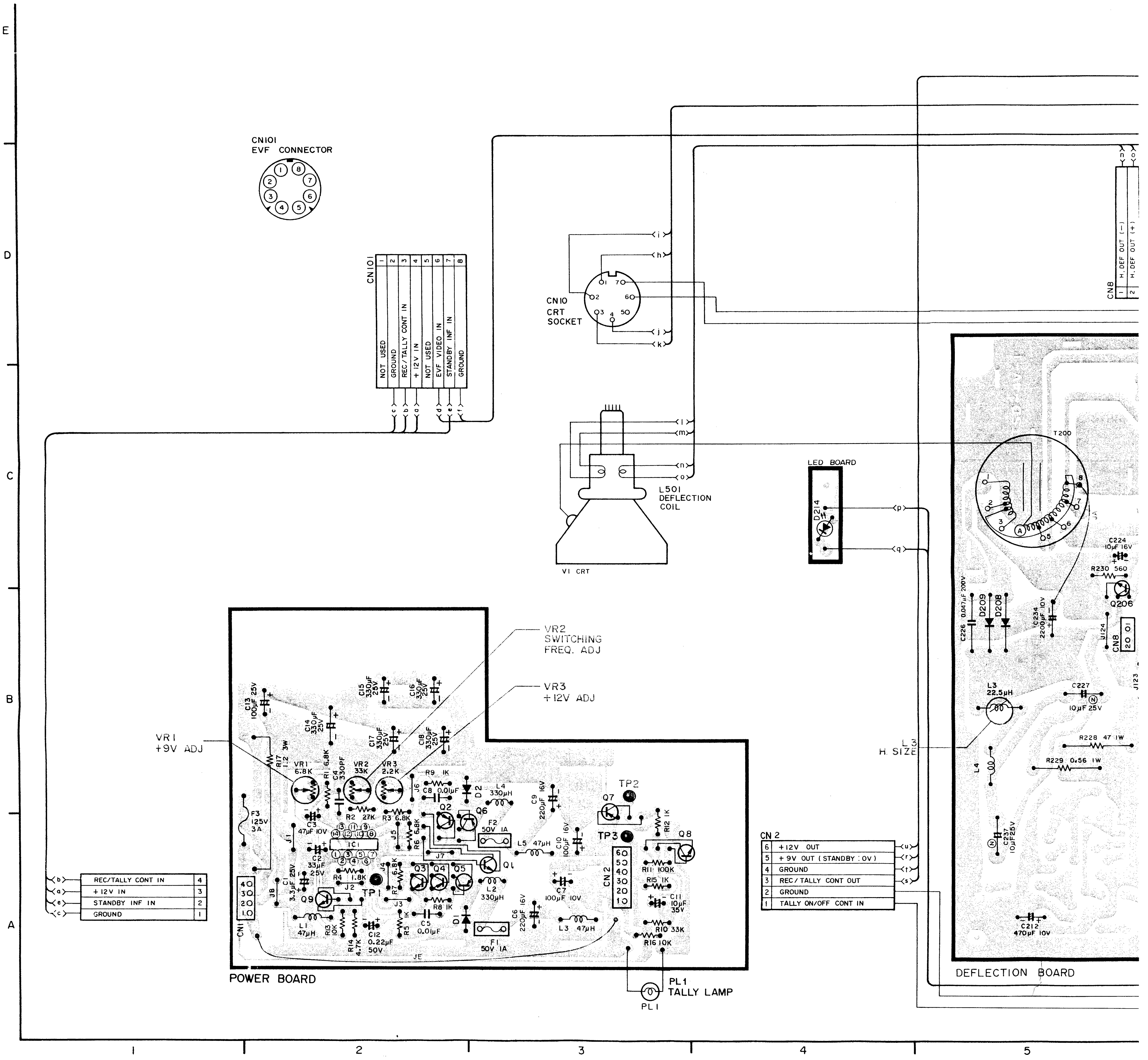
)48MC	A2, A3
7-RS	A2
2-QRS	A2
7-RS	A1
2-QRS	A1
9-PQ	A2
9-PQ	A3
3-RS	A3
05-QR	A3
6-QRS	A2
	A2
	A3

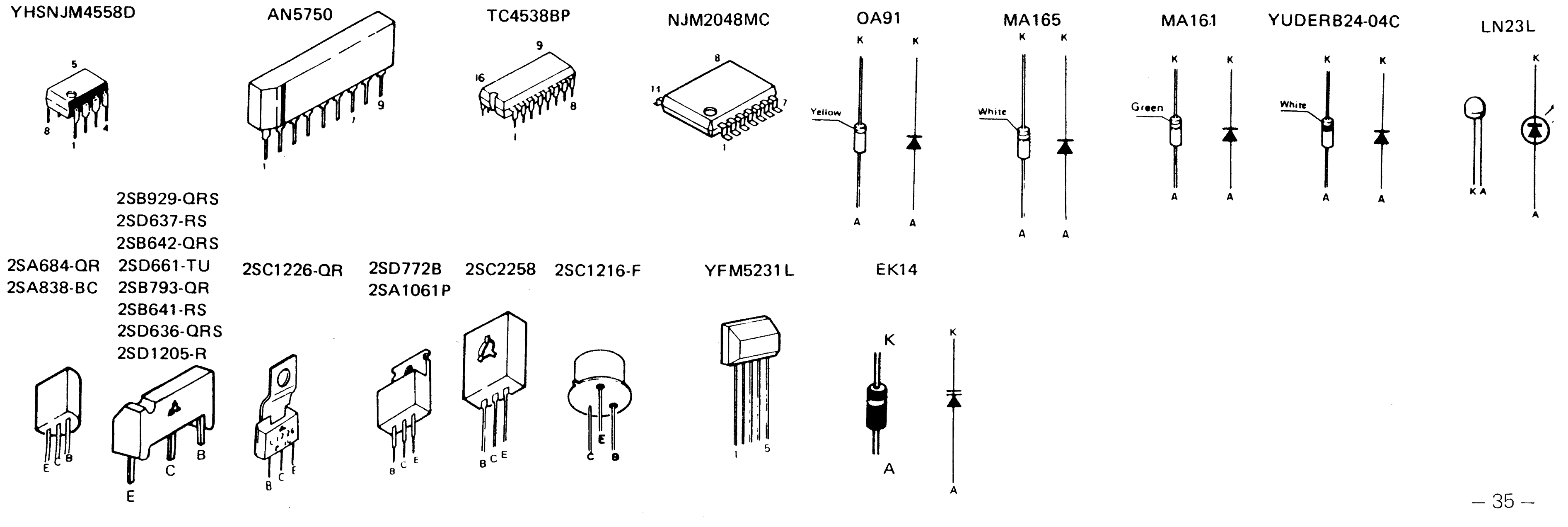
PRODUCT SAFETY NOTICE

COMPONENT IDENTIFIED WITH THE " ⚠ " MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.

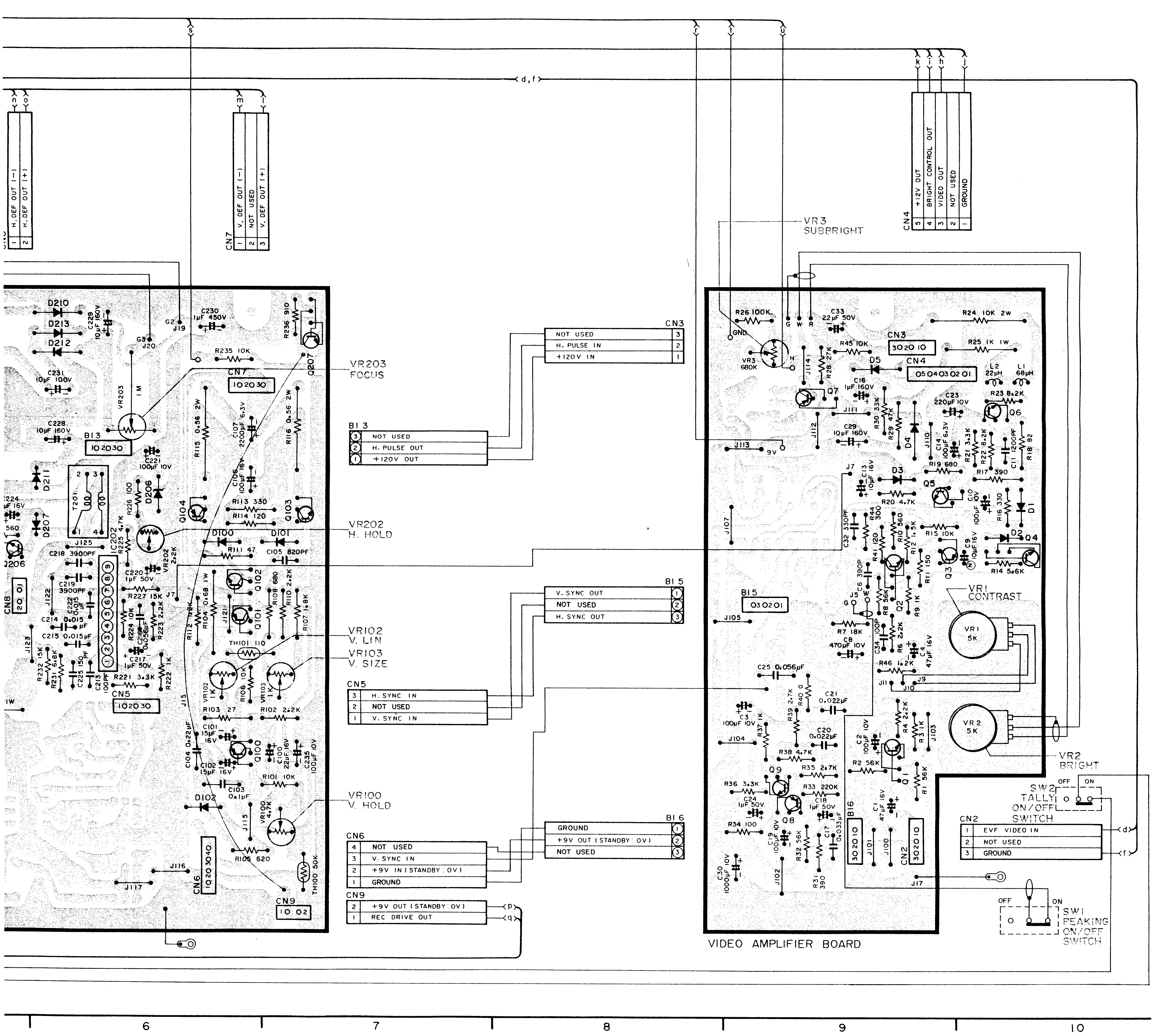
WHN SERVICING ANY OF THESE COMPONENTS, IT IS ESSENCIAL THAT ONLY MANUFACTURE'S SPECIFIED PARTS BE USED

CONDUCTOR VIEW OF 5″


E
D
C
B
A
1
2
3
4
5
CN101
EVF CONNECTOR
CN101
1 NOT USED
2 GROUND
3 REC/TALLY CONT IN
4 +12V IN
5 NOT USED
6 EVF VIDEO IN
7 STANDBY INF IN
8 GROUND
CN10
CRT
SOCKET
L501
DEFLECTION
COIL
V1 CRT
LED BOARD
D214
CN8
1 H.DEF OUT (−)
2 H.DEF OUT (+)
T200
C224 10µF 16V
R230 560
Q206
C226 0.047µF 200V
D209
D208
C234 220µF 10V
J124
CN8
L3 22.5µH
C227 10µF 25V
R228 47 1W
R229 0.56 1W
L3 H SIZE
L4
C237 10µF 25V
C212 470µF 10V
DEFLECTION BOARD
VR2 SWITCHING FREQ. ADJ
VR3 +12V ADJ
VR1 +9V ADJ
C13 100µF 25V
C14 330µF 25V
C15 330µF 25V
C16 330µF 25V
C17 330µF 25V
C18 330µF 25V
R17 1.2 3W
VR1 6.8K
R1 6.8K
C4 330PF
VR2 33K
VR3 2.2K
R9 1K
C8 0.01µF
D2
L4 330µH
C9 220µF 16V
TP2
Q7
F3 125V 3A
C3 47µF 10V
R2 27K
R3 6.8K
Q2
Q6
F2 50V 1A
R12 1K
IC1
R6 6.8K
J7
L5 47µH
C10 100µF 16V
TP3
Q8
C2 33µF 25V
C1 3.3µF 25V
R4 1.8K
Q3
Q4
Q5
Q1
L2 330µH
CN2
R11 100K
R15 1K
C7 100µF 10V
C11 10µF 35V
Q9
TP1
J2
J3
R8 1K
CN1
L1 47µH
R13 10K
R14 4.7K
C12 0.22µF 50V
C5 0.01µF
R5
D1
C6 220µF 16V
F1 50V 1A
L3 47µH
R10 33K
R16 10K
JE
POWER BOARD
PL1 TALLY LAMP
PL1
CN1
4 REC/TALLY CONT IN
3 +12V IN
2 STANDBY INF IN
1 GROUND
CN 2
6 +12V OUT
5 +9V OUT (STANDBY : 0V)
4 GROUND
3 REC/TALLY CONT OUT
2 GROUND
1 TALLY ON/OFF CONT IN


YHSNJM4558D
AN5750
TC4538BP
NJM2048MC
OA91
MA165
MA161
YUDERB24-04C
LN23L
Yellow
White
Green
White
K
A
2SB929-QRS
2SD637-RS
2SB642-QRS
2SA684-QR
2SA838-BC
2SD661-TU
2SB793-QR
2SB641-RS
2SD636-QRS
2SD1205-R
2SC1226-QR
2SD772B
2SA1061P
2SC2258
2SC1216-F
YFM5231L
EK14
E C B
B C E

VIEWFINDER WV-VF65B


s
d, f
k
i
h
j
n
o
m
l
H. DEF OUT (−)
H. DEF OUT (+)
CN7
V. DEF OUT (−)
NOT USED
V. DEF OUT (+)
CN4
+12V OUT
BRIGHT CONTROL OUT
VIDEO OUT
NOT USED
GROUND
VR3
SUBBRIGHT
D210
D213
D212
C229 10µF 160V
C230 1µF 450V
R236 910
Q207
R235 10K
VR203
FOCUS
CN7 102030
C231 10µF 100V
C228 10µF 160V
VR203 1M
B13 102030
C221 100µF 10V
R115 0.56 2W
C107 2200µF 6.3V
R116 0.56 2W
C106 100µF 16V
D211
T201
D206
R226 100
Q104
R113 330
R114 120
Q103
D207
R225 4.7K
IC202
VR202 2.2K
D100
D101
R111 47
C105 820PF
C218 3900PF
J125
C219 3900PF
C220 1µF 50V
R227 15K
Q102
R108 680
R110 2.2K
R107 1.8K
C214 0.015µF
C215 0.015µF
R224 10K
R223 4.7K
R112 1.8K
Q101
TH101 110
C216 0.056µF
C217 1µF 50V
VR102 1K
R106 10K
VR103 1K
R232 5.6K
R231 6.8K
R221 3.3K
R222 1K
C213 100PF
CN5 102030
R103 27
R102 2.2K
C101 15µF 16V
Q100
C100 22µF 16V
C235 100µF 10V
C104 0.22µF
C102 15µF 16V
C103 0.1µF
R101 10K
D102
VR100 4.7K
R105 620
CN6 1020304
J116
J117
J115
TH100 50K
CN9 1002
CN3
NOT USED
H. PULSE IN
+120V IN
B13
NOT USED
H. PULSE OUT
+120V OUT
VR202
H. HOLD
VR102
V. LIN
VR103
V. SIZE
B15
V. SYNC OUT
NOT USED
H. SYNC OUT
CN5
H. SYNC IN
NOT USED
V. SYNC IN
VR100
V. HOLD
B16
GROUND
+9V OUT (STANDBY OV)
NOT USED
CN6
NOT USED
V. SYNC IN
+9V IN (STANDBY : OV)
GROUND
CN9
+9V OUT (STANDBY : OV)
REC DRIVE OUT
p
q
R26 100K
GND
G W R
C33 22µF 50V
R24 10K 2W
VR3 680K
R45 10K
CN3 302010
R25 1K 1W
D5
CN4 0504030201
L2 22µH
L1 68µH
C16 1µF 160V
R28 27K
Q7
C23 220µF 10V
R23 8.2K
Q6
J111
J112
R30 33K
R29 47K
D4
C29 10µF 160V
J110
C14 100µF 6.3V
R21 3.3K
R22 8.2K
C11 1200PF
R18 82
J113
9V
R19 680
R17 390
J7
C13 1µF 16V
D3
Q5
R20 4.7K
C10 100µF 10V
R16 330
D1
J107
C32 330PF
R44 300
R10 560
R12 1.5K
R15 10K
D2
Q4
C9 10µF 16V
R41 120
R11 150
Q3
R14 5.6K
VR1
CONTRAST
C6 390P
J5
B15 030201
R8 56K
Q2
R9 1K
J105
R7 18K
C8 470µF 10V
C34 100P
R6 2.2K
C4 47µF 16V
VR1 5K
R46 1.2K
J11
J9
J10
C25 0.056µF
R40 0
R39 2.7K
C21 0.022µF
C3 100µF 10V
R37 1K
C20 0.022µF
R4 2.2K
C2 100µF 10V
R3 1K
J103
VR2 5K
J104
R38 4.7K
R35 2.7K
R2 56K
Q1
VR2
BRIGHT
Q9
R1 56K
R36 3.3K
R33 220K
C24 1µF 50V
Q8
C18 1µF 50V
C1 47µF 16V
SW2
TALLY
ON/OFF
SWITCH
OFF
ON
R34 100
CN2
EVF VIDEO IN
NOT USED
GROUND
B16 302010
J100
CN2 302010
C30 1000µF 10V
C19 100µF 10V
R32 56K
C17 0.033µF
R31 390
J101
J102
J17
SW1
PEAKING
ON/OFF
SWITCH
VIDEO AMPLIFIER BOARD
6
7
8
9
10

3L

DEFLECTION BOARD

IC202	AN5750	B6
Q100	2SD636-QRS	B6
Q101	2SB641-QRS	B6
Q102	2SD636-QRS	B6
Q103	2SC1226-QR	C7
Q104	2SA684-QR	C6
Q202	2SB641-QRS	B6
Q203	2SD636-QRS	B6
Q206	2SD772B	B5
Q207	2SD1205-R	C7

D100	MA161	C6
D101	MA161	C7
D102	MA165	A6
D206	YUDX068	C6
D207	YUDERB24-04C	C6
D208	YUDU06C	B5
D209	OA91	B5
D210	YUDERB24-04C	D6
D211	YUDERB24-04C	C6
D212	YUDERB24-04C	C6
D213	YUDERB24-04C	C6
D214	LN23L	C9

VIDEO AMPLIFIER BOARD

Q1	2SD636-QRS	B9
Q2	2SD636-QRS	B9
Q3	2SB641-QRS	C9
Q4	2SD636-QRS	C10
Q5	2SC1216-FS	C9
Q6	2SC2258QRS	C10
Q7	2SA1018A	C9
Q8	2SB641-QRS	A9
Q9	2SD636-QRS	A9
Q10	2SD661-TU	B9
D1	MA161	C10
D2	MA161	C10
D3	MA162	C9
D4	YUDERB24-04C	C9
D5	OA91	C9

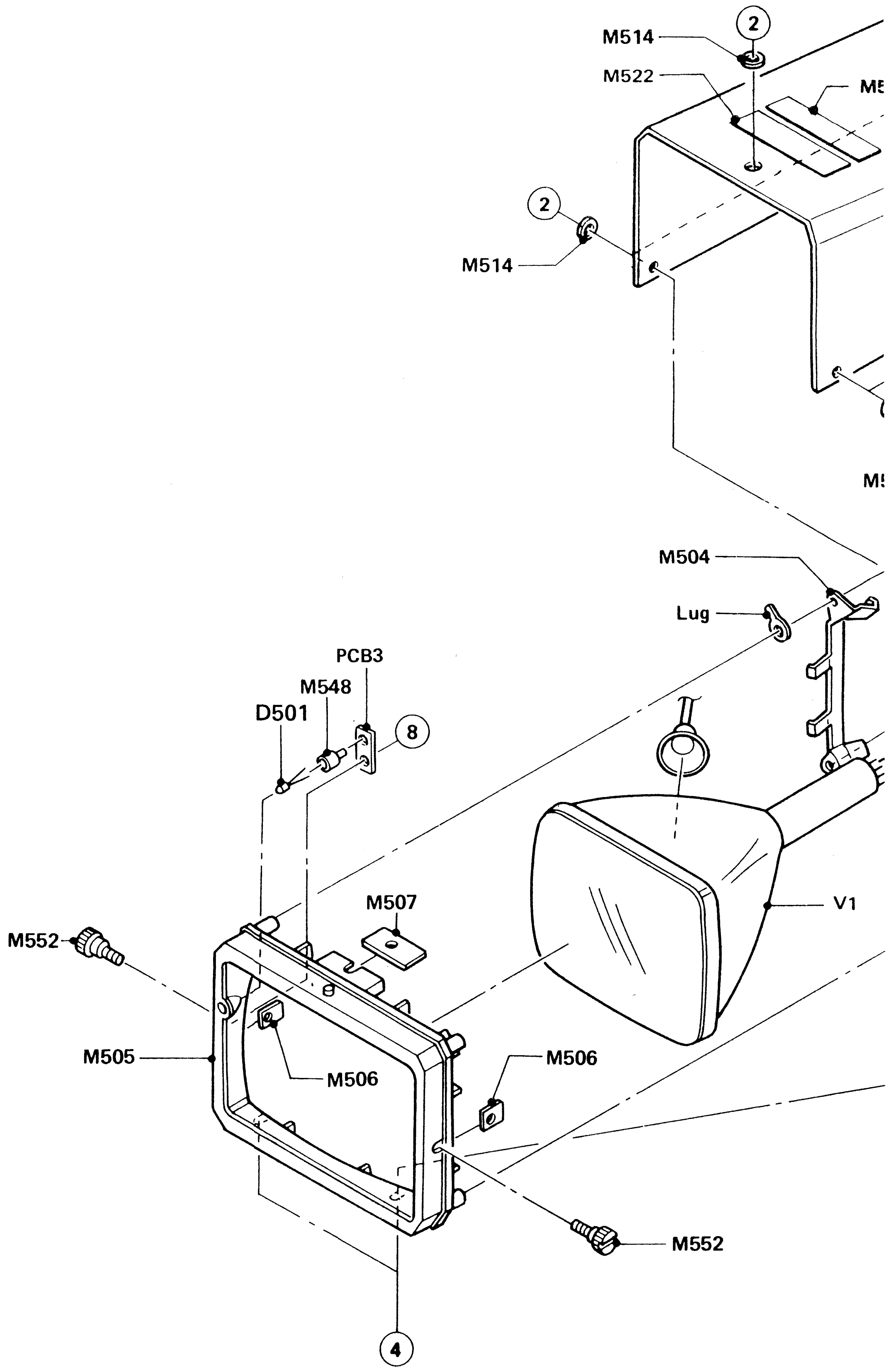
POWER BOARD

IC1	NJM2048MC	A2
Q1	2SD637-RS	A3
Q2	2SB642-QRS	A2
Q31	2SD637-RS	A2
Q4	2SB642-QRS	A2
Q5	2SB929-PQ	A2
Q6	2SB929-PQ	A3
Q7	2SB793-RS	A3
Q8	2SD1205-QR	A3
Q9	2SD636-QRS	A2
D1	EK14	A2
D2	EK14	A2

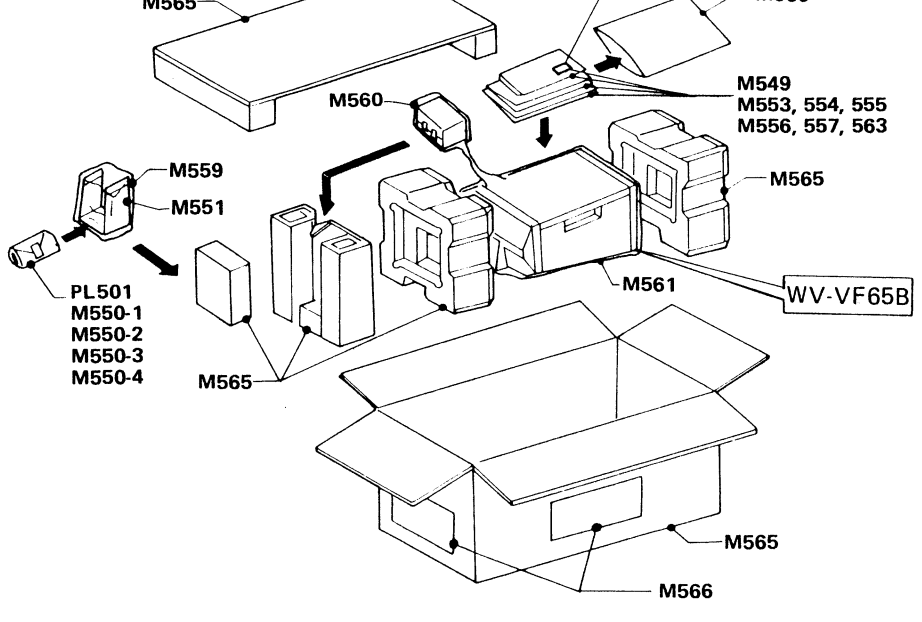
EXPLODED VIEW OF 5″

○ Numbers show Screws

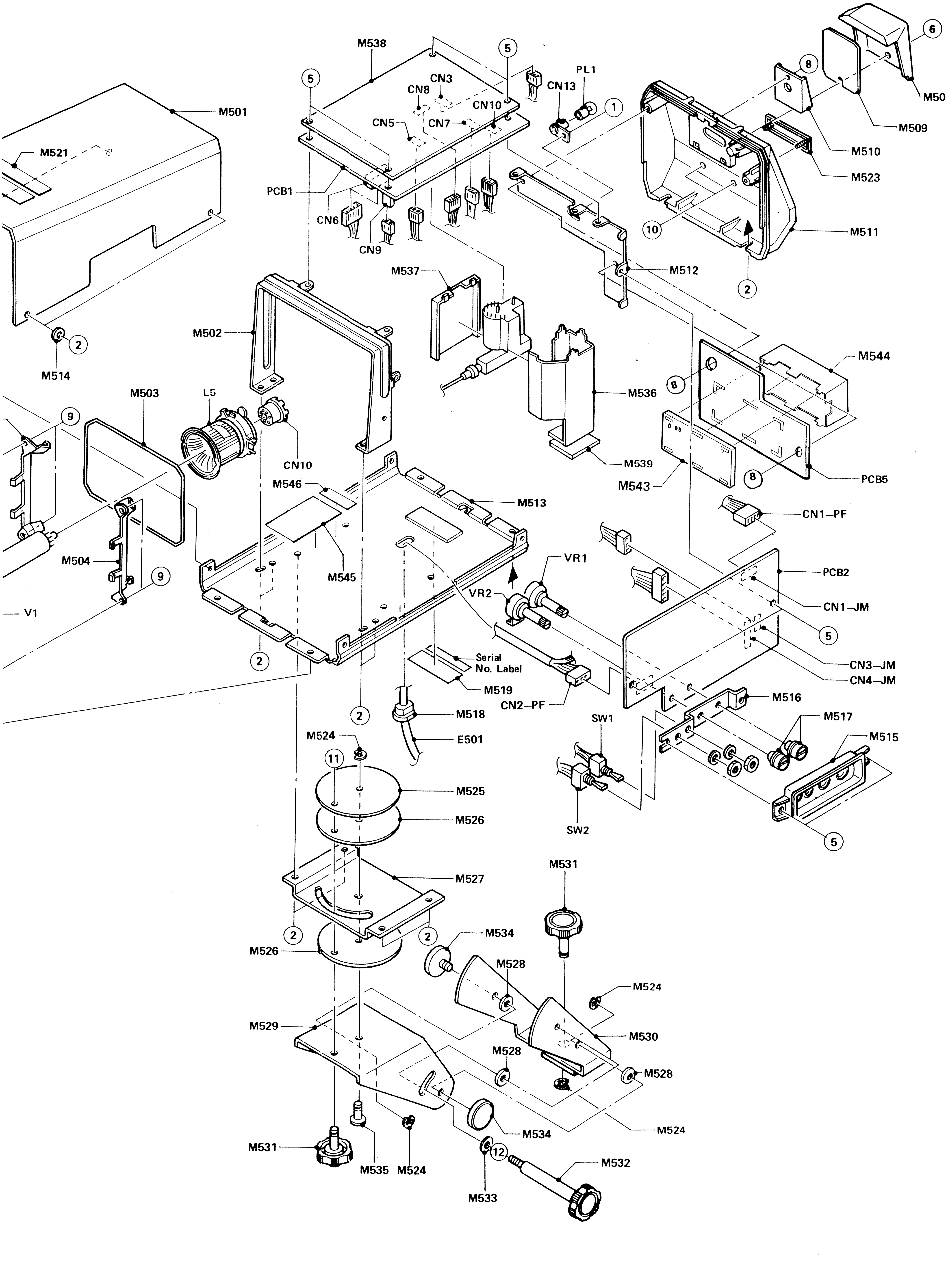
No.	Screw	Description
①	XSB3+6FX	Binding Head Screw
②	XSB3+6FXN	Binding Head Screw
③	XSB3+4FXK	Binding Head Black Screw
④	XSB3+6FXK	Binding Head Black Screw
⑤	XSB3+6FXV	Binding Head Violet Screw
⑥	XSB26+8FXK	Binding Head Black Screw
⑦	XSB26+4FXK	Binding Head Black Screw
⑧	XTB3+8BFX	Binding Head Tapping Screw
⑨	XTB4+20BFX	Binding Head Tapping Screw
⑩	XNG3GFX	Hexagon Head Nut
⑪	XUC4FN	Retaining Ring Type E
⑫	XWE6FN	Small Round Plain Washer


M514
②
M522
M5
②
M514
M5
M504
Lug
PCB3
M548
D501
⑧
M507
V1
M552
M505
M506
M506
M552
④

PACKAGING


M565
M567
M560
M549
M553, 554, 555
M556, 557, 563
M560
M559
M551
M565
M561
WV-VF65B
PL501
M550-1
M550-2
M550-3
M550-4
M565
M565
M566

F 5″ VIEWFINDER (WV-VF65B)

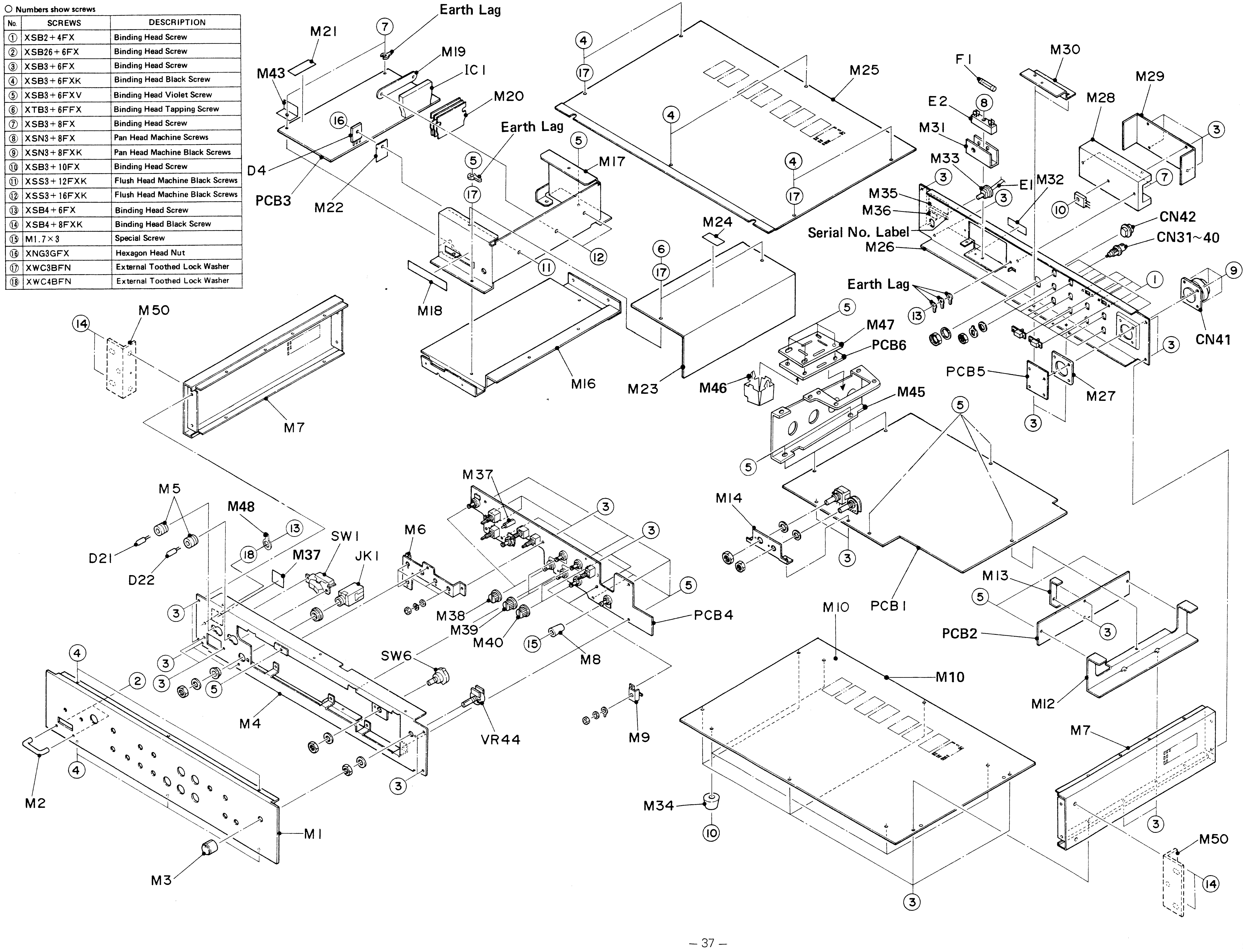


M538
5
CN3
CN8
CN13
PL1
6
8
M508
M501
M521
5
CN5
CN7
CN10
1
M509
M510
M523
PCB1
CN6
CN9
10
M511
M537
M512
2
M502
M514
2
M544
8
M536
M503
L5
9
CN10
M539
M543
8
PCB5
M546
M513
CN1–PF
M504
M545
VR1
9
VR2
PCB2
CN1–JM
V1
5
CN3–JM
2
Serial No. Label
CN4–JM
M519
CN2–PF
M516
2
M518
SW1
M517
M524
E501
M515
11
M525
M526
SW2
5
M527
M531
2
2
M534
M526
M528
M524
M529
M530
M528
M528
M524
M534
M531
12
M532
M535
M524
M533

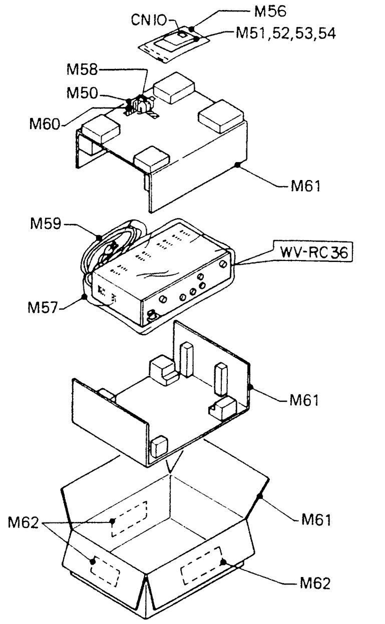
EXPLODED VIEW OF RCU (WV-RC36)

○ Numbers show screws

No.	SCREWS	DESCRIPTION
①	XSB2+4FX	Binding Head Screw
②	XSB26+6FX	Binding Head Screw
③	XSB3+6FX	Binding Head Screw
④	XSB3+6FXK	Binding Head Black Screw
⑤	XSB3+6FXV	Binding Head Violet Screw
⑥	XTB3+6FFX	Binding Head Tapping Screw
⑦	XSB3+8FX	Binding Head Screw
⑧	XSN3+8FX	Pan Head Machine Screws
⑨	XSN3+8FXK	Pan Head Machine Black Screws
⑩	XSB3+10FX	Binding Head Screw
⑪	XSS3+12FXK	Flush Head Machine Black Screws
⑫	XSS3+16FXK	Flush Head Machine Black Screws
⑬	XSB4+6FX	Binding Head Screw
⑭	XSB4+8FXK	Binding Head Black Screw
⑮	M1.7×3	Special Screw
⑯	XNG3GFX	Hexagon Head Nut
⑰	XWC3BFN	External Toothed Lock Washer
⑱	XWC4BFN	External Toothed Lock Washer

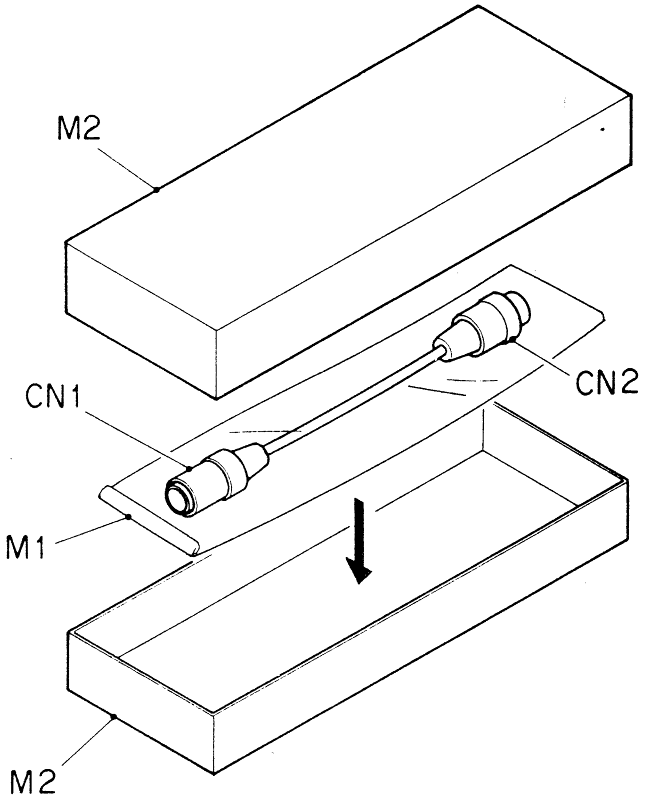

Earth Lag
M21
⑦
M19
IC1
M43
M20
⑯
Earth Lag
D4
PCB3
M22
⑤
⑰
⑤
M17
⑫
⑪
M18
M16
④
⑰
④
M25
④
⑰
M24
⑥
⑰
M23
F1
M30
M29
E2
⑧
M28
M31
③
M33
③
E1
M32
M35
M36
③
Serial No. Label
M26
⑦
⑩
CN42
CN31~40
Earth Lag
①
⑨
⑬
⑤
M47
PCB6
M46
M45
CN41
③
PCB5
M27
③
⑤
⑤
⑭
M50
M7
M37
M5
③
M48
⑬
③
⑱
SW1
M37
JK1
M6
D21
D22
⑤
PCB4
M38
M39
M40
⑮
M8
③
③
③
⑤
④
②
③
⑤
SW6
M4
VR44
M9
④
M2
M1
③
M3
M14
③
M10
PCB1
M13
⑤
③
PCB2
M10
M12
M7
M34
⑩
③
③
M50
⑭

PACKAGING

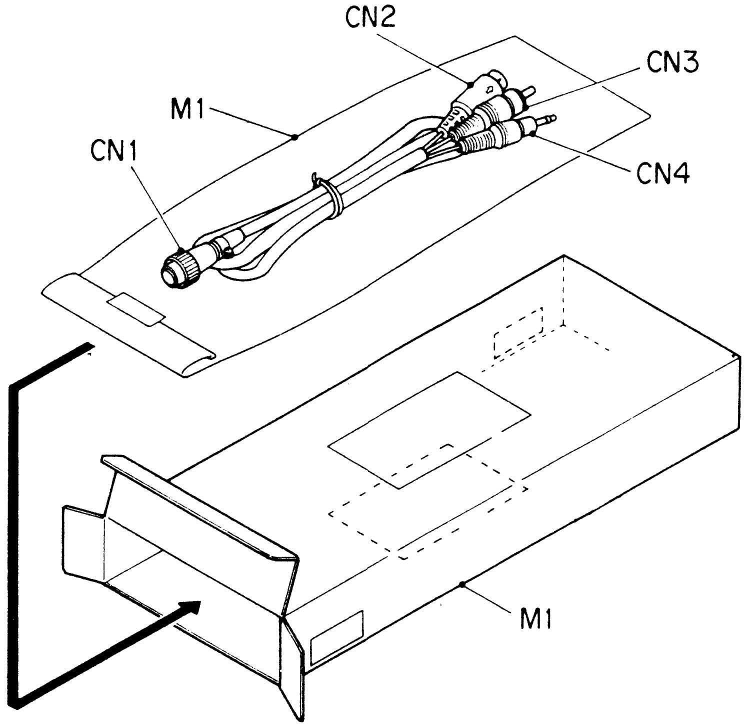

CN10
M56
M51,52,53,54
M58
M50
M60
M61
M59
WV-RC36
M57
M61
M62
M61
M62

PACKAGING

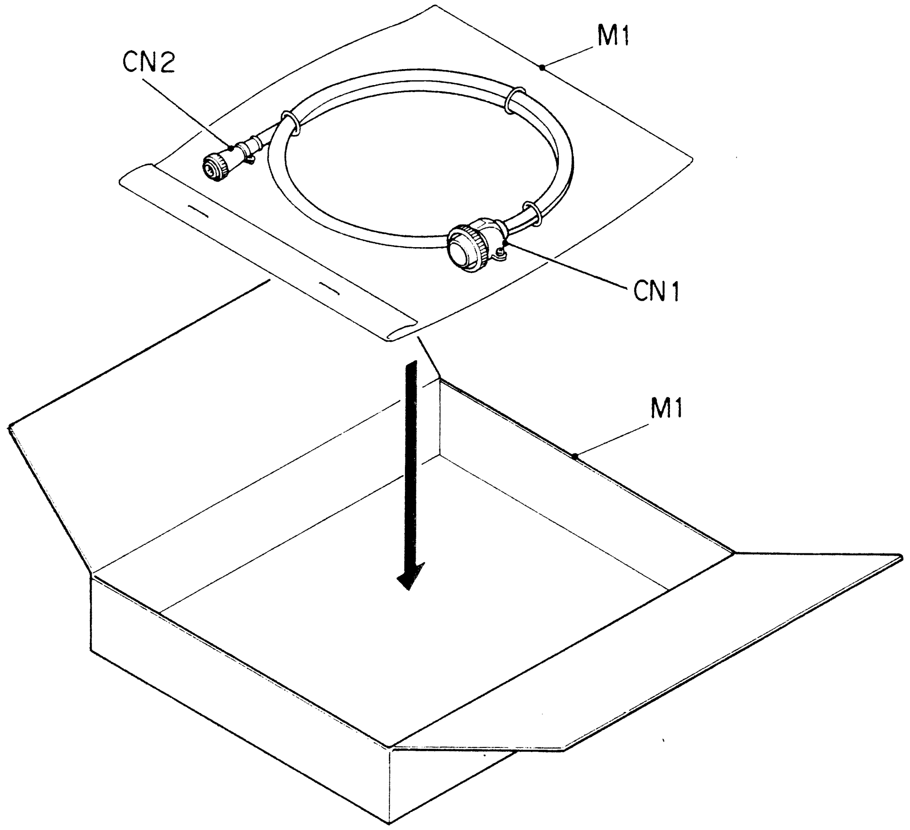
LENS CONVERSION CABLE WV-LC10


M2
CN1
CN2
M1
M2

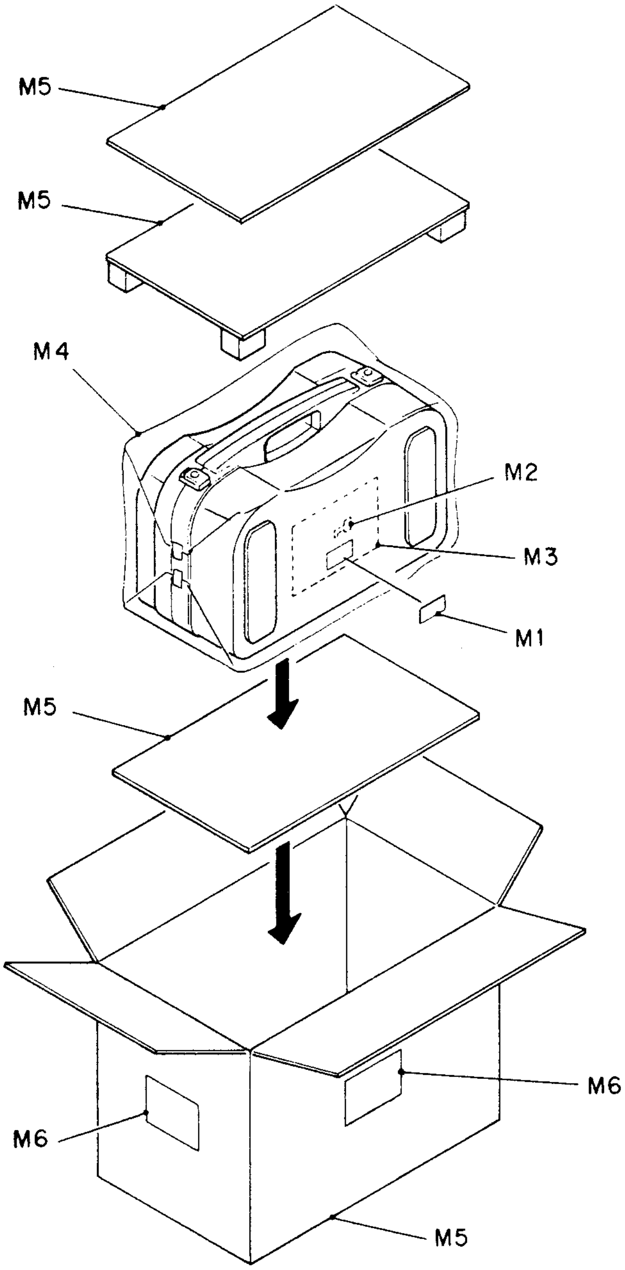
S-VHS CABLE WV-CA38


CN2
CN3
M1
CN1
CN4
M1

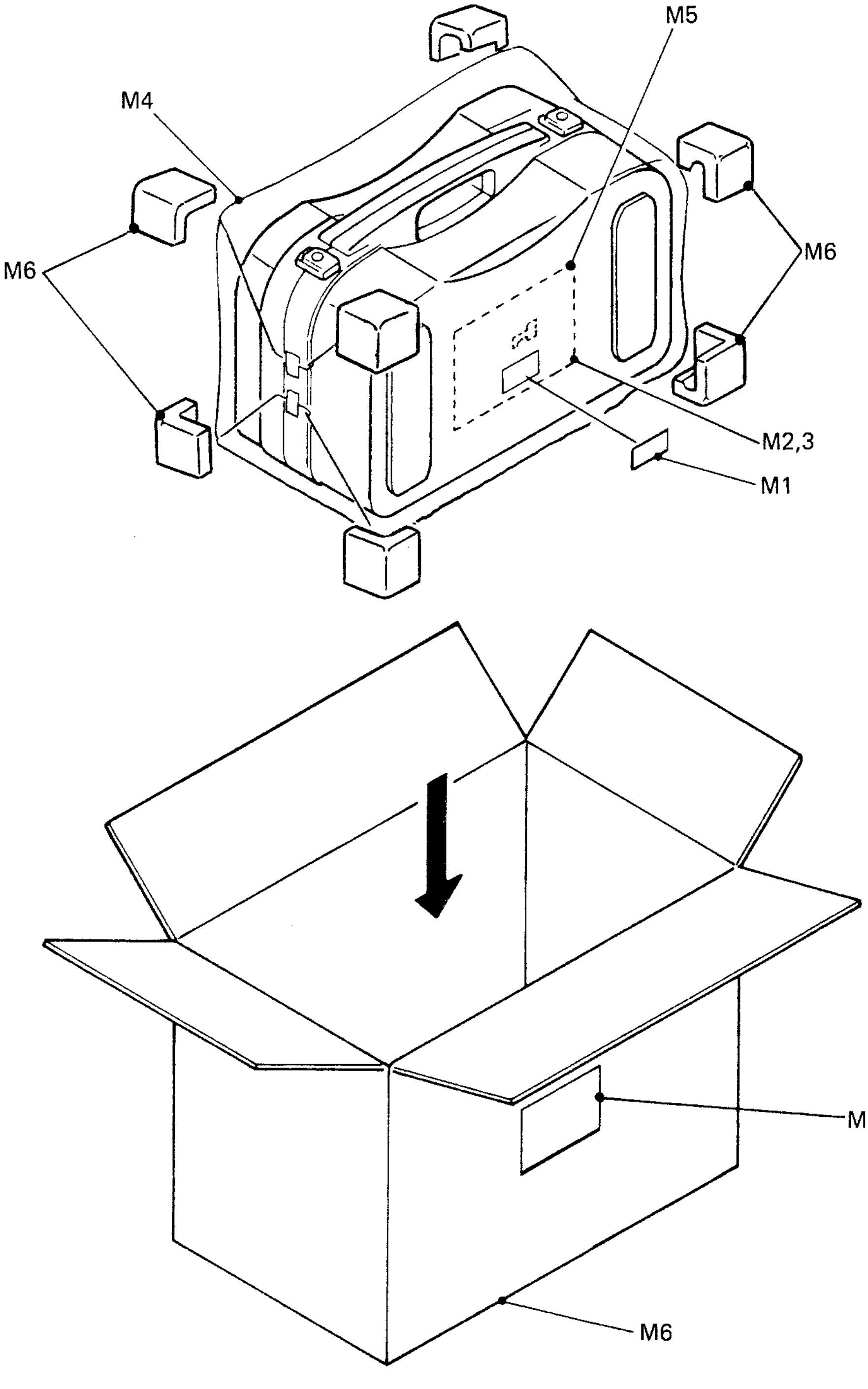
VTR CABLE WV-CA32A/14


CN2
M1
CN1
M1

PACKAGING OF WV-CC37


M5
M5
M4
M2
M3
M1
M5
M6
M6
M5

PACKAGING OF WV-CC38


M5
M4
M6
M6
M2,3
M1
M7
M6

REPLACEMENT PARTS LIST

Important Notice

1. Components identified by "⚠" mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
2. Components identified by "o" mark are new parts used from this model.
3. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.

5" VIEWFINDER WV-VF65B

MISCELLANEOUS

SYMBOL NO.	PART NO.	DESCRIPTION
V1 ⚠	M13JEE5WW	Cathode Ray Tube
VR1	EVHC0AK15B53	Variable Resistor 5K ohms
VR2	EVHC0AK15B54	Variable Resistor 50K ohms
L5 ⚠	YFYS33418	Deflection Coil
SW1,2	YFM2012ESG	Selector Switch
PL1	YWSQG1012V12	Pilot Lamp
CN10	YWS7-502B-40	CRT Socket Assy
CN13	YWM20201A	Tally Lamp Socket
E501	YF8P65CABLE	EVF Cable
E502	YWEB202J606	Conversion Cable
M501	YFV5EC0063A3	Upper Cover
M502	YWV3805CM01	Chassis A
M503	o YFV5YA0013A4	Band for CRT
M504	YFV2SA0101A4	Mounting Angle for CRT(X2)
M505	YWV3805DR01	Rear Escutchen
M506	YWV3805LM02A	Rear Nut
M507	YWV930-LM01	SUpport Angle
M508	YWV385PKR01V	Tally Cover
M509	YWV385PLR01U	Tally Card A
M510	YWV3805AM02	Reflection Plate for Tally
M511	YFV5EC0067B2	Front Cover
M512	YWV2KA0466A3	Chassis B for Power Board
M513	YFV5EC0064A2	Bottom Cover
M514	o YFV1KA0001A4	Washer
M518	YWSR5N4	Cord Clamp
M519 ⚠	o YWV7QA1379B4	Main Label
M521 ⚠	YWS-XEGRB03A	Safety Label
M522 ⚠	YWV7MA0099A4	Safety Label
M523	YWS-LM010A	Badge
M524	YFBE-40	Retaining Ring
M525	YFV2CB0019A4	Hold Plate
M526	YFV2NA0009A4	Spacer
M527	YFV2TA0054A4	Mounting Bracket
M528	YFV2NA0008A4	Spacer for Frame
M529	YFV2WA0017A3	Upper Mounting Frame
M530	YFV2WA0018A3	Lower Mounting Frame
M531	YFV5RA0014A3	Knob A
M532	YFV5RA0015A3	Knob B
M533	YWV1800FR03	Washer
M534	YFV1BA0003A4	Support for Frame
M535	YFV1BA0004A4	Suppor Mounting Bracket
M539	YWV3805LB01	Spacer

SYMBOL NO.	PART NO.	DESCRIPTION	
M545 ⚠	YFV7MA0204A4	X-Ray Label	
M546 ⚠	YWS-WULRB01A	High Voltage Caution Label	

DEFLECTION BOARD

SYMBOL NO.	PART NO.	DESCRIPTION	
PCB1 (NLA)	o YFVKBVF65E1A	Printed Circuit Board Assy	
C202	AN5750	IC	
Q100	2SD636-Q	Transistor	
Q101	2SB641-QR	Transistor	
Q102	2SD636-Q	Transistor	
Q103	2SC1226A-Q	Transistor	
Q104	2SA684-QR	Transistor	
Q206	2SD772B	Transistor	
Q207	2SD1205-R	Transistor	
D100,101	MA161	Diode	
D102	MA165	Diode	
D206	MA4068M	Diode	
D207	YUDERB24-04C	Diode	
D208	YUDU06C	Diode	
D209	0A91	Diode	
D210-213	YUDERB24-04C	Diode	
TH100	ERTD2FHL503S	Thermistor	50K ohms
TH101	ERTD2FBK111S	Thermistor	110 ohms
R101	ERDS2TJ103	Carbon	10K ohms 1/4W
R102	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R103	ERD25FJ270	Carbon	27 ohms 1/4W
R104	ERX1ANJR68	Metal	0.68 ohms 1W
R105	ERDS2TJ621	Carbon	620 ohms 1/4W
R106	ERDS2TJ103	Carbon	10K ohms 1/4W
R107	ERD25FJ182	Carbon	1.8K ohms 1/4W
R108	ERD25FJ681	Carbon	680 ohms 1/4W
R109	ERD25FJ471	Carbon	470 ohms 1/4W
R110	ERD25FJ222	Carbon	2.2K ohms 1/4W
R111	ERD25FJ470	Carbon	47 ohms 1/4W
R112	ERD25FJ122	Carbon	1.2K ohms 1/4W
R113	ERD25FJ331	Carbon	330 ohms 1/4W
R114	ERD25FJ121	Carbon	120 ohms 1/4W
R115,116	ERX2ANJR56	Metal	0.56 ohms 2W
R210	ERDS2TJ104	Carbon	100K ohms 1/4W
R221	ERDS2TJ332	Carbon	3.3K ohms 1/4W
R222	ERDS2TJ102	Carbon	1K ohms 1/4W
R223	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R224	ERDS2TJ103	Carbon	10K ohms 1/4W
R225	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R226	ERDS2FJ101	Carbon	100 ohms 1/4W
R227	ERDS2TJ153	Carbon	15K ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION	
R228	ERG1ANJ470	Metal	47 ohms 1W
R229	ERX1ANJR56	Metal	0.56 ohms 1W
R230	ERDS2TJ561	Carbon	560 ohms 1/4W
R231	ERDS2TJ682	Carbon	6.8K ohms 1/4W
R232	ERDS2TJ153	Carbon	15K ohms 1/4W
R235	ERDS2TJ103	Carbon	10K ohms 1/4W
R236	ERDS2TJ911	Carbon	910 ohms 1/4W
VR100	YFH1021A4R7K	Variable Resistor	4.7K ohms
VR102,103	YFCR19R1KB	Variable Resistor	1.0K ohms
VR202	EVN8ACA00BE3	Variable Resistor	2.2K ohms
VR203	YFH1621C1MB	Variable Resistor	1M ohms
C100	ECEA1CS220	Electrolytic	22 µF 16V
C101,102	ECSF1CE156	Electrolytic	15 µF 16V
C103	ECQV1H104JD	Plastic	0.1 µF 50V
C104	ECQV1H274JZ	Plastic	0.27 µF 50V
C105	ECQP1472JZ	Plastic	4700 pF 100V
C106	ECEA1CS101	Electrolytic	100 µF 16V
C107	ECEA0JS222	Electrolytic	2200 µF 6.3V
C212	ECEA1ASS471	Electrolytic	470 µF 10V
C213	ECCF1H101JC	Ceramic	100 pF 50V
C214,215	ECQM1H153JZ	Plastic	0.015 µF 50V
C216	ECQM1H563JZ	Plastic	0.056 µF 50V (TF)
C217	ECEA1HS010S	Electrolytic	1 µF 50V
C218,219	ECQP1392JZ	Plastic	3900 pF 100V
C220	ECEA1HS010S	Electrolytic	1 µF 50V
C221	ECEA1AS101	Electrolytic	100 µF 50V
C222	ECQM1H153JZ	Plastic	0.015 µF 50V
C224	ECEA1CU100	Electrolytic	10 µF 16V
C225	ECCF1H151JR	Ceramic	150 pF 50V
C226 ⚠	ECQM2473KZ	Plastic	0.047 µF 200V
C227	ECEA25W10Z	Electrolytic	10 µF 25V
C228,229	ECEA2CS100	Electrolytic	10 µF 160V
C230	ECEA2WS010	Electrolytic	1 µF 450V
C231	ECEA2AS100	Electrolytic	10 µF 100V
C234	ECEA1ASS222	Electrolytic	2200µF 10V
C235	ECEA1AS101	Electrolytic	100 µF 50V
C237	ECEA25W10Z	Electrolytic	10 µF 25V
L3 ⚠	ELH16F753	Coil	
L4 ⚠	ELH5L18	Coil	
T200 ⚠	ETF35L14V	Flyback Transformer	
T201	TLH3412K	Low Freq Transformr	
CN5-JM	EMCS0352M	3 pin Jack Male	
CN6-JM	EMCS0452M	4 pin Jack Male	
CN7-JM	EMCS0352M1G	3 pin Jack Male	
CN8-JM	EMCS0252M	2 pin Jack Male	
CN9-JM	EMCS0252M1R	2 pin Jack Male	
E1	o WMT4X1R2X7	Insulator	
E2	o WMT6X1R2X5	Insulator	
M536	YFV2HA0054A3	Shield Cover A	
M537	YFV2HA0055A4	Shield Case A	
M538	YFV2PA0070A4	Insulator Sheet	

SYMBOL NO.	PART NO.	DESCRIPTION	
VIDEO AMPLIFIER BOARD			
PCB2 (NLA)	YFVKCVF65E1A	Printed Circuit Board Assy	
Q1,2	2SD636-Q	Transistor	
Q3	2SB641-QR	Transistor	
Q4	2SD636-Q	Transistor	
Q5	2SC1216F	Transistor	
Q6	2SC2258	Transistor	
Q7	2SA1018A	Transistor	
Q8	2SB641-QR	Transistor	
Q9	2SD636-Q	Transistor	
D1,2	MA161	Diode	
D3	MA162	Diode	
D4	YUDERB24-04C	Diode	
D5	0A91	Diode	
R1,2	ERDS2TJ563	Carbon	56K ohms 1/4W
R3	ERDS2TJ102	Carbon	1K ohms 1/4W
R4,6	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R7	ERDS2TJ183	Carbon	18K ohms 1/4W
R8	ERDS2TJ563	Carbon	56K ohms 1/4W
R9	ERDS2TJ102	Carbon	1K ohms 1/4W
R10	ERDS2TJ561	Carbon	560 ohms 1/4W
R11	ERDS2TJ151	Carbon	150 ohms 1/4W
R12	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R14	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R15	ERDS2TJ103	Carbon	10K ohms 1/4W
R16	ERDS2FJ331	Carbon	330 ohms 1/4W
R17	ERD25FJ391	Carbon	390 ohms 1/4W
R18	ERD25FJ820	Carbon	82 ohms 1/4W
R19	ERDS2TJ681	Carbon	680 ohms 1/4W
R20	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R21	ERDS2TJ332	Carbon	3.3K ohms 1/4W
R22,23	ERDS2TJ822	Carbon	8.2K ohms 1/4W
R24	ERG2ANJ103	Metal	10K ohms 2W
R25	ERG1ANJ102	Metal	1K ohms 1W
R26	ERDS2TJ104	Carbon	100K ohms 1/4W
R28	ERDS2TJ273	Carbon	27K ohms 1/4W
R29	ERD25FJ473	Carbon	47K ohms 1/4W
R30	ERD25FJ333	Carbon	33K ohms 1/4W
R31	ERDS2TJ391	Carbon	390 ohms 1/4W
R32	ERDS2TJ563	Carbon	56K ohms 1/4W
R33	ERDS2TJ224	Carbon	220K ohms 1/4W
R34	ERDS2FJ101	Carbon	100 ohms 1/4W
R35	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R36	ERDS2TJ332	Carbon	3.3K ohms 1/4W
R37	ERDS2TJ102	Carbon	1K ohms 1/4W
R38	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R39	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R41	ERDS2TJ121	Carbon	120 ohms 1/4W
R44	ERDS2TJ301	Carbon	300 ohms 1/4W
R45	ERDS2TJ103	Carbon	10K ohms 1/4W
R46	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R50	ERDS2TJ561	Carbon	560 ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION
R51	ERDS2TJ473	Carbon 47K ohms 1/4W
VR3	YWSR19R680KB	Variable Resistor 680K ohms
C1	ECEA1CS470	Electrolytic 47 µF 16V
C2,3	ECEA1AS101	Electrolytic 100 µF 10V
C4	ECEA1CS470	Electrolytic 47 µF 16V
C6	ECKF1H391KB	Ceramic 390 pF 50V
C8	ECEA1AS471	Electrolytic 470 µF 10V
C9	ECEA1CN100S	Electrolytic 10 µF 16V
C10	ECEA1AS101	Electrolytic 100 µF 10V
C11	ECQP1122JZ	Plastic 1200 pF 100V
C13	ECEA1CU100	Electrolytic 10 µF 16V
C14	ECEA0JS101	Electrolytic 100 µF 6.3V
C16	ECEA2CS010	Electrolytic 1 µF 160V
C17	ECQM1H333KZ	Plastic 0.033 µF 50V
C18	ECEA1HS010S	Electrolytic 1 µF 50V
C19	ECEA1AS101	Electrolytic 100 µF 10V
C20,21	ECQM1H223JZ	Plastic 0.022 µF 50V
C23	ECEA1AS221	Electrolytic 220 µF 10V
C24	ECEA1HS010S	Electrolytic 1 µF 50V
C25	ECQM1H563JZ	Plastic 0.056 µF 50V (TF)
C29	ECEA2CS100	Electrolytic 10 µF 160V
C30	ECEA1ASS102	Electrolytic 1000 µF 10V
C32	ECKF1H331KB	Ceramic 330 pF 50V
C33	ECEA1HSS220	Electrolytic 22 µF 50V
C34	ECCF1H101JC	Ceramic 100 pF 50V
L1	YFL5680J	Coil 68 µH
L2	YWL5220J	Coil 22 µH
CN1-JM	EMCS0252M	2 pin Jack Male
CN2-JM	YFILG3PS3T2E	3 pin Jack Male
CN3-JM	EMCS0352M	3 pin Jack Male
CN4-JM	EMCS0552M	5 pin Jack Male
E1	o WMT4X1R2X7	Insulator
E2	o WMT6X1R2X5	Insulator
M515	YFV5WA0060A3	Control Panel
M516	YFV2SA0046A4	Mounting Angle for VR
M517	YWV3801HR01	Control Knob

LED BOARD

SYMBOL NO.	PART NO.	DESCRIPTION
PCB3	YFVKDVF65P1A	Printed Board
D501	LN23L	LED
M548	YWE2400FR01	LED Holder

POWER BOARD

SYMBOL NO.	PART NO.	DESCRIPTION
PCB4 (NLA)	YWVKZVF65P1B	Printed Circuit Board Assy
IC1	NJM2048MC	IC
Q1	2SD637-RS	Transistor
Q2	2SB642-QRS	Transistor
Q3	2SD637-RS	Transistor
Q4	2SB642-QRS	Transistor
Q5,6	2SB929-PQ	Transistor
Q7	2SB793-RS	Transistor
Q8	2SD1205-R	Transistor
Q9	2SD636-Q	Transistor
D1,2	EK14	Diode
R1	ERDS2TJ682	Carbon 6.8K ohms 1/4W
R2	ERDS2TJ273	Carbon 27K ohms 1/4W
R3	ERDS2TJ682	Carbon 6.8K ohms 1/4W
R4	ERDS2TJ182	Carbon 1.8K ohms 1/4W
R5	ERDS2TJ102	Carbon 1K ohms 1/4W
R6,7	ERDS2TJ682	Carbon 6.8K ohms 1/4W
R8,9	ERDS2TJ102	Carbon 1K ohms 1/4W
R10	ERDS2TJ333	Carbon 33K ohms 1/4W
R11	ERDS2TJ104	Carbon 100K ohms 1/4W
R12	ERDS2TJ102	Carbon 1K ohms 1/4W
R13	ERDS2TJ103	Carbon 10K ohms 1/4W
R14	ERDS2TJ472	Carbon 4.7K ohms 1/4W
R15	ERDS2TJ102	Carbon 1K ohms 1/4W
R16	ERDS2TJ103	Carbon 10K ohms 1/4W
R17	ERF3AK1R2	Wire Wound 1.2 ohms 3W
VR1	YWH0651A6R8K	Variable Resistor 6.8 ohms
VR2	YFH0621A33K	Variable Resistor 33K ohms
VR3	YFH0651A2R2K	Variable Resistor 2.2K ohms
C1	ECEA1EK3R3	Electrolytic 3.3 µF 25V
C2	ECEA1EF330	Electrolytic 33 µF 25V
C3	ECEA1ASS470	Electrolytic 47 µF 10V
C4	ECCF1H331J	Ceramic 330 pF 50V
C5	ECQB1H103JZ	Plastic 0.01 µF 50V
C6	ECEA1CSS221	Electrolytic 220 µF 16V
C7	ECEA1AF101	Electrolytic 100 µF 10V
C8	ECQB1H103JZ	Plastic 0.01 µF 50V
C9	ECEA1CSS221	Electrolytic 220 µF 16V
C10	ECEA1CF101	Electrolytic 100 µF 16V
C11	ECEA1VK100	Electrolytic 10 µF 35V
C12	ECEA1HSSR22	Electrolytic 0.22 µF 50V
C13	ECEA1EU222	Electrolytic 22 µF 25V
C14	ECEA1EU102	Electrolytic 1000 µF 25V
C15-18	ECEA1EU331	Electrolytic 330 µF 25V
L1	YFPC470K	Coil 47 µH
L2	YFPF331K	Coil 330 µH
L3	YFPC470K	Coil 47 µH
L4	YFPF331K	Coil 330 µH
L5	YFPC470K	Coil 47 µH
F1,2	ICPF25	Current Fuse 1A 50V

SYMBOL NO.	PART NO.	DESCRIPTION
F3 ⚠	YFSP520NM0	Current Fuse 2A 125V
CN1-JM	S4PS2T2EF	4 pin Jack Male
CN2-JM	YFS6PS2T2EF	6 pin Jack Male
M543	YFV2HA0232A4	Shield Case B
M544	YFV2HA0233A4	Shield Cover B

ACCESSORY PARTS/PACKAGING PARTS

PL1	YWSQG1012V12	Tally Lamp
M550-1	YWV2SA0331A4	Mounting Angle A for shoe
M550-2	YWV2SA0335A4	Mounting Angle B for Shoe
M550-3	YFV5MA0011A4	ShoeA
M550-4	YFV5MA0020A4	Shoe B
M551	YFV6BA0015A3	Hood
M552	YWV3805FM01	Standard Screw
M553	o YWV8QA1385AN	Operating Instructions
M556	YWV385PLR02U	Tally Card B
M557	YWV385PLR03U	Tally Card C
M559	YWT10X10C03	Polyethylene Bag for Screw
M560	YWT10X16C03	Polyethylene Bag for Card
M561	YWT20X25C03	Polyethylene Bag for Printed
M562	YWT20X35C03	Polyethylene Bag for Hood
M564	XZB35X50C05	Polyethylene Bag for EVF
M565	YFV9CA0763AN	Packaging
M566	o YWV8FA0141A3	Packaging Label
M567	YWT050803	Polyethylene Bag

REMOTE CONTROL UNIT WV-RC36

MISCELLANEOUS

SYMBOL NO.	PART NO.	DESCRIPTION
Q124 ⚠	2SB1057-PQ	Transistor
D21	LN21RPH	LED RED
D22	LN31-GCP	LED Green
R408,409	ERD25FJ750	Carbon 75 ohms 1/4W
VR44	EVHC0HK20B14	Variable Resistor 10K ohms
SW1 ⚠	YWEST1556S	Power Switch
SW6	YWSRN1034	Rotary Switch
SW11,12	YWYSTSJ02824	Slide Switch
F1	XBA2C31ET0A	Current Fuse 3.15A 250V
JK1	YWLJ194-1-1	Socket
CN31-40	YWDBNCR	BNC Connector
CN42	YFCNR-1204J	4pin Tally/Intercom Connector
E1 ⚠	YWKPGTSA-3	AC Power Cord for WV-RC36/A
⚠	YWHBS-3-08	AC Power Cord for WV-RC36/B
⚠	YWC0309-08F	AC Power Cord for WV-RC36/C
⚠	YWVM0309-08	AC Power Cord for WV-RC36/G
E2	YWX-N1153-07	Fuse Holder
M1	YWV5WB0346A2	Front Panel
M2	YFV5DA0005A4	Ornament
M3	YFV5RA0012A3	Iris Control Knob
M4	YWV2KA0189A2	Front Chassis
M5	YWJ800PWB01	Parts Holder
M7	YFV5EA0058A2	Side Cover
M8	YWV5RA0082A4	Chroma Knob
M10	YFV5EA0060A3	Bottom Cover
M12	YWV2SA0330A3	Mounting Angle C for Board
M13	YWV2SA0326A4	Mounting Angle B for Board
M16	YFV2KA0068A3	Power Chassis
M25	YFV5EA0059A3	Upper Cover
M26	YWV5WA0347A2	Rear Panel
M27	YWV2PA0221A4	Insulator Spacer for Connector
M28	YWJ4600AM02A	Heat Sink
M29	YWJ4600KM01A	Cover for Heat-Sink
M30	YFV2SA0042A4	Mounting Angle A for Board
M31	YWV2PA0220A4	Insulator
M32	YFV7MA0207A4	Fuse Label
M33	YWSR6W-1	Cord Clamp
M34	YWV5350WB01	Rubber Foot
M35 ⚠	o YWV7QA1375B4	Main Label for WV-RC36/A
⚠	o YWV7QA1376B4	Main Label for WV-RC36/B
⚠	o YWV7QA1377B4	Main Label for WV-RC36/C
⚠	o YWV7QA1378B4	Main Label for WV-RC36/G
M36	YFV7MB0099A4	UL Caution Safety Label
M37	YWV7MA0280A4	Safety Label
M38	YWV3801HR01	Knob(Black) X2
M39	YFV5RB0004A4	Knob(Red) X2
M40	YFV5RC0004A4	Knob(Blue) X2
M45	o YWV2SA1233A3	Mounting Angle
M46	o YWV2PA0270A4	Insulator Cover
M47	o YWV2PA0271A4	Insulator Plate
M48	YW-BCG-EM01	Mounting Angle

SYMBOL NO.	PART NO.	DESCRIPTION	
MAIN BOARD			
PCB1 (NLA)	o YWVKZRC36E1A	Printed Circuit Board Assy	
IC1	DN850	IC	
IC2	HD14001BP	IC	
Q1	2SC828A-RS	Transistor	
Q2	2SA838-C	Transistor	
Q3-6	2SC828A-RS	Transistor	
Q7	2SC1216F	Transistor	
Q8-16	2SC828A-RS	Transistor	
Q17,18	2SC1317-S	Transistor	
Q19-30	2SC828A-RS	Transistor	
Q36	2SC828A-RS	Transistor	
Q37	2SA838-C	Transistor	
Q38-49	2SC828A-RS	Transistor	
Q55-57	2SC828A-RS	Transistor	
Q58,59	2SC1317-S	Transistor	
Q60-71	2SC828A-RS	Transistor	
Q77-79	2SC828A-RS	Transistor	
Q80,81	2SC1317-S	Transistor	
Q82-93	2SC828A-RS	Transistor	
Q97	2SC1317-S	Transistor	
Q98	2SA719-QR	Transistor	
Q100	2SC828A-RS	Transistor	
Q101	2SA564A-RS	Transistor	
Q102-111	2SC828A-RS	Transistor	
Q112,113	2SC1317-S	Transistor	
Q114-116	2SC828A-RS	Transistor	
Q117,118	2SC1317-S	Transistor	
Q120-123	2SC828A-RS	Transistor	
D1,8	MA4082L	Diode	
D12	MA4082L	Diode	
D16,17	MA165	Diode	
D18,19	MA4082L	Diode	
R1	ERDS2TJ223	Carbon	22K ohms 1/4W
R2	ERDS2TJ473	Carbon	47K ohms 1/4W
R3	ERDS2FJ331	Carbon	330 ohms 1/4W
R4	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R5	ERDS2TJ224	Carbon	220K ohms 1/4W
R6	ERDS2TJ563	Carbon	56K ohms 1/4W
R7	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R8	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R9	ERDS2TJ392	Carbon	3.9K ohms 1/4W
R10	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R11	ERDS2TJ563	Carbon	56K ohms 1/4W
R12	ERDS2TJ473	Carbon	47K ohms 1/4W
R13	ERDS2TJ243	Carbon	24K ohms 1/4W
R14	ERDS2FJ101	Carbon	100 ohms 1/4W
R15	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R16	ERDS2TJ151	Carbon	150 ohms 1/4W
R17	ERDS2FJ331	Carbon	330 ohms 1/4W
R18	ERDS2TJ102	Carbon	1K ohms 1/4W
R19	ERDS2TJ222	Carbon	2.2K ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION	
R20	ERDS2TJ682	Carbon	6.8K ohms 1/4W
R21	ERDS2TJ471	Carbon	470 ohms 1/4W
R22	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R23	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R24	ERDS2TJ103	Carbon	10K ohms 1/4W
R25	ERDS2TJ392	Carbon	3.9K ohms 1/4W
R26	ERDS2TJ822	Carbon	8.2K ohms 1/4W
R27,28	ERDS2TJ561	Carbon	560 ohms 1/4W
R29	ERDS2FJ101	Carbon	100 ohms 1/4W
R30	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R31	ERDS2FJ221	Carbon	220 ohms 1/4W
R32	ERDS2TJ151	Carbon	150 ohms 1/4W
R33	ERDS2TJ392	Carbon	3.9K ohms 1/4W
R34	ERDS2TJ822	Carbon	8.2K ohms 1/4W
R35,36	ERDS2TJ561	Carbon	560 ohms 1/4W
R37	ERDS2TJ151	Carbon	150 ohms 1/4W
R38	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R39	ERDS2TJ392	Carbon	3.9K ohms 1/4W
R40	ERDS2TJ822	Carbon	8.2K ohms 1/4W
R41,42	ERDS2TJ561	Carbon	560 ohms 1/4W
R43	ERDS2TJ181	Carbon	180 ohms 1/4W
R44	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R45	ERDS2TJ471	Carbon	470 ohms 1/4W
R46	ERD25FJ822	Carbon	8.2K ohms 1/4W
R47	ERDS2TJ103	Carbon	10K ohms 1/4W
R48	ERDS2TJ273	Carbon	27K ohms 1/4W
R49	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R50	ERDS2TJ471	Carbon	470 ohms 1/4W
R51	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R52	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R53	ERDS2TJ821	Carbon	820 ohms 1/4W
R54	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R55	ERDS2TJ100	Carbon	10 ohms 1/4W
R56	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R57	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R58,59	ERDS2TJ330	Carbon	33 ohms 1/4W
R60	ERDS2TJ181	Carbon	180 ohms 1/4W
R61	ERDS2TJ223	Carbon	22K ohms 1/4W
R62	ERDS2TJ750	Carbon	75 ohms 1/4W
R63	ERDS2TJ750	Carbon	75 ohms 1/4W
R64	ERDS2TJ103	Carbon	10K ohms 1/4W
R65	ERDS2TJ273	Carbon	27K ohms 1/4W
R66	ERDS2FJ101	Carbon	100 ohms 1/4W
R67	ERDS2TJ821	Carbon	820 ohms 1/4W
R68	ERDS2TJ223	Carbon	22K ohms 1/4W
R69	ERDS2FJ221	Carbon	220 ohms 1/4W
R70	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R71	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R72	ERDS2TJ821	Carbon	820 ohms 1/4W
R73	ERDS2TJ103	Carbon	10K ohms 1/4W
R74	ERDS2TJ223	Carbon	22K ohms 1/4W
R75	ERDS2TJ182	Carbon	1.8K ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION	
R76	ERDS2TJ223	Carbon	22K ohms 1/4W
R77	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R79	ERDS2TJ223	Carbon	22K ohms 1/4W
R80	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R81	ERDS2TJ223	Carbon	22K ohms 1/4W
R82	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R83	ERD25FJ223	Carbon	22K ohms 1/4W
R84	ERDS2TJ681	Carbon	680 ohms 1/4W
R85	ERDS2TJ751	Carbon	750 ohms 1/4W
R86	ERDS2TJ102	Carbon	1K ohms 1/4W
R87	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R88-91	ERDS2TJ223	Carbon	22K ohms 1/4W
R92	ERDS2TJ471	Carbon	470 ohms 1/4W
R93	ERDS2TJ121	Carbon	120 ohms 1/4W
R94	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R110	ERDS2TJ223	Carbon	22K ohms 1/4W
R111,112	ERDS2TJ750	Carbon	75 ohms 1/4W
R113	ERDS2TJ103	Carbon	10K ohms 1/4W
R114	ERDS2TJ273	Carbon	27K ohms 1/4W
R115	ERDS2FJ101	Carbon	100 ohms 1/4W
R116	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R117	ERDS2TJ224	Carbon	220K ohms 1/4W
R118	ERDS2TJ563	Carbon	56K ohms 1/4W
R119	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R120	ERD25FJ152	Carbon	1.5K ohms 1/4W
R121	ERDS2TJ153	Carbon	15K ohms 1/4W
R122	ERDS2TJ750	Carbon	75 ohms 1/4W
R123	ERDS2TJ103	Carbon	10K ohms 1/4W
R124	ERDS2TJ273	Carbon	27K ohms 1/4W
R125	ERDS2FJ101	Carbon	100 ohms 1/4W
R126	ERDS2TJ821	Carbon	820 ohms 1/4W
R127	ERDS2TJ223	Carbon	22K ohms 1/4W
R128	ERDS2FJ221	Carbon	220 ohms 1/4W
R129	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R130	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R131	ERDS2TJ821	Carbon	820 ohms 1/4W
R132	ERDS2TJ103	Carbon	10K ohms 1/4W
R133	ERDS2TJ223	Carbon	22K ohms 1/4W
R134	ERDS2TJ242	Carbon	2.4K ohms 1/4W
R135	ERDS2TJ223	Carbon	22K ohms 1/4W
R136	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R138	ERDS2TJ223	Carbon	22K ohms 1/4W
R139	ERDS2TJ202	Carbon	2K ohms 1/4W
R140	ERDS2TJ223	Carbon	22K ohms 1/4W
R141	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R142	ERD25FJ223	Carbon	22K ohms 1/4W
R143	ERDS2TJ621	Carbon	620 ohms 1/4W
R144	ERDS2TJ751	Carbon	750 ohms 1/4W
R145	ERDS2TJ102	Carbon	1K ohms 1/4W
R146	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R147	ERD25FJ223	Carbon	22K ohms 1/4W
R148,149	ERDS2TJ223	Carbon	22K ohms 1/4W
R150	ERD25FJ223	Carbon	22K ohms 1/4W
R151	ERDS2TJ471	Carbon	470 ohms 1/4W
R152	ERDS2TJ121	Carbon	120 ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION	
R153	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R172	ERDS2TJ103	Carbon	10K ohms 1/4W
R173	ERDS2TJ273	Carbon	27K ohms 1/4W
R174	ERDS2FJ101	Carbon	100 ohms 1/4W
R175	ERDS2TJ821	Carbon	820 ohms 1/4W
R176	ERDS2FJ101	Carbon	100 ohms 1/4W
R177	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R178	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R179	ERDS2TJ821	Carbon	820 ohms 1/4W
R180	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R181	ERDS2TJ100	Carbon	10 ohms 1/4W
R182	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R183	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R184,185	ERDS2TJ330	Carbon	33 ohms 1/4W
R186	ERDS2TJ181	Carbon	180 ohms 1/4W
R187	ERDS2TJ223	Carbon	22K ohms 1/4W
R188,189	ERDS2TJ750	Carbon	75 ohms 1/4W
R190	ERDS2TJ103	Carbon	10K ohms 1/4W
R191	ERDS2TJ273	Carbon	27K ohms 1/4W
R192	ERDS2FJ101	Carbon	100 ohms 1/4W
R193	ERDS2TJ821	Carbon	820 ohms 1/4W
R194	ERDS2TJ223	Carbon	22K ohms 1/4W
R195	ERDS2FJ221	Carbon	220 ohms 1/4W
R196	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R197	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R198	ERDS2TJ821	Carbon	820 ohms 1/4W
R199	ERDS2TJ103	Carbon	10K ohms 1/4W
R200	ERDS2TJ223	Carbon	22K ohms 1/4W
R201	ERDS2TJ242	Carbon	2.4K ohms 1/4W
R202	ERDS2TJ223	Carbon	22K ohms 1/4W
R203	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R205	ERDS2TJ223	Carbon	22K ohms 1/4W
R206	ERDS2TJ202	Carbon	2K ohms 1/4W
R207	ERDS2TJ223	Carbon	22K ohms 1/4W
R208	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R209	ERDS2TJ223	Carbon	22K ohms 1/4W
R210	ERDS2TJ621	Carbon	620 ohms 1/4W
R211	ERDS2TJ751	Carbon	750 ohms 1/4W
R212	ERDS2TJ102	Carbon	1K ohms 1/4W
R213	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R214-217	ERDS2TJ223	Carbon	22K ohms 1/4W
R218	ERDS2TJ471	Carbon	470 ohms 1/4W
R219	ERDS2TJ121	Carbon	120 ohms 1/4W
R220	ERDS2TJ122	Carbon	1.2K ohms 1/4W
R239	ERDS2TJ103	Carbon	10K ohms 1/4W
R240	ERDS2TJ273	Carbon	27K ohms 1/4W
R241	ERDS2FJ101	Carbon	100 ohms 1/4W
R242	ERDS2TJ821	Carbon	820 ohms 1/4W
R243	ERDS2FJ101	Carbon	100 ohms 1/4W
R244	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R245	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R246	ERDS2TJ821	Carbon	820 ohms 1/4W
R247	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R248	ERDS2TJ100	Carbon	10 ohms 1/4W
R249	ERDS2TJ182	Carbon	1.8K ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION
R250	ERDS2TJ222	Carbon 2.2K ohms 1/4W
R251,252	ERDS2TJ330	Carbon 33 ohms 1/4W
R253	ERDS2TJ181	Carbon 180 ohms 1/4W
R254	ERDS2TJ223	Carbon 22K ohms 1/4W
R255,256	ERDS2TJ750	Carbon 75 ohms 1/4W
R257	ERDS2TJ103	Carbon 10K ohms 1/4W
R258	ERDS2TJ273	Carbon 27K ohms 1/4W
R259	ERDS2FJ101	Carbon 100 ohms 1/4W
R260	ERDS2TJ821	Carbon 820 ohms 1/4W
R261	ERDS2TJ223	Carbon 22K ohms 1/4W
R262	ERDS2FJ221	Carbon 220 ohms 1/4W
R263	ERDS2TJ122	Carbon 1.2K ohms 1/4W
R264	ERDS2TJ472	Carbon 4.7K ohms 1/4W
R265	ERDS2TJ821	Carbon 820 ohms 1/4W
R266	ERDS2TJ103	Carbon 10K ohms 1/4W
R267	ERDS2TJ223	Carbon 22K ohms 1/4W
R268	ERDS2TJ242	Carbon 2.4K ohms 1/4W
R269	ERDS2TJ223	Carbon 22K ohms 1/4W
R270	ERDS2TJ122	Carbon 1.2K ohms 1/4W
R272	ERDS2TJ223	Carbon 22K ohms 1/4W
R273	ERDS2TJ202	Carbon 2K ohms 1/4W
R274	ERDS2TJ223	Carbon 22K ohms 1/4W
R275	ERDS2TJ182	Carbon 1.8K ohms 1/4W
R276	ERD25FJ223	Carbon 22K ohms 1/4W
R277	ERDS2TJ621	Carbon 620 ohms 1/4W
R278	ERDS2TJ751	Carbon 750 ohms 1/4W
R279	ERDS2TJ102	Carbon 1K ohms 1/4W
R280	ERDS2TJ122	Carbon 1.2K ohms 1/4W
R281-284	ERDS2TJ223	Carbon 22K ohms 1/4W
R285	ERDS2TJ471	Carbon 470 ohms 1/4W
R286	ERDS2TJ121	Carbon 120 ohms 1/4W
R287	ERDS2TJ122	Carbon 1.2K ohms 1/4W
R297	ERDS2TJ100	Carbon 10 ohms 1/4W
R300,301	ERDS2TJ330	Carbon 33 ohms 1/4W
R303	ERDS2TJ223	Carbon 22K ohms 1/4W
R304	ERDS2TJ750	Carbon 75 ohms 1/4W
R311	ERDS2TJ222	Carbon 2.2K ohms 1/4W
R313	ERDS2TJ681	Carbon 680 ohms 1/4W
R314	ERDS2TJ562	Carbon 5.6K ohms 1/4W
R315	ERDS2TJ223	Carbon 22K ohms 1/4W
R316	ERDS2TJ562	Carbon 5.6K ohms 1/4W
R317	ERDS2TJ103	Carbon 10K ohms 1/4W
R318	ERDS2TJ104	Carbon 100K ohms 1/4W
R319	ERDS2TJ561	Carbon 560 ohms 1/4W
R320	ERDS2TJ472	Carbon 4.7K ohms 1/4W
R321	ERDS2TJ333	Carbon 33K ohms 1/4W
R322	ERDS2TJ472	Carbon 4.7K ohms 1/4W
R323	ERDS2TJ391	Carbon 390 ohms 1/4W
R324	ERDS2TJ103	Carbon 10K ohms 1/4W
R325,326	ERDS2FJ331	Carbon 330 ohms 1/4W
R329	ERG1ANJ271	Metal 270 ohms 1W
R330	ERDS2TJ393	Carbon 39K ohms 1/4W
R331	ERDS2TJ333	Carbon 33K ohms 1/4W
R332	ERDS2TJ332	Carbon 3.3K ohms 1/4W
R333	ERDS2TJ104	Carbon 100K ohms 1/4W
R335	ERDS2TJ102	Carbon 1K ohms 1/4W
R342	ERDS2TJ103	Carbon 10K ohms 1/4W
R343	ERDS2TJ273	Carbon 27K ohms 1/4W
R344	ERDS2FJ101	Carbon 100 ohms 1/4W
R345	ERDS2TJ821	Carbon 820 ohms 1/4W
R346	ERDS2FJ101	Carbon 100 ohms 1/4W
R347	ERDS2TJ223	Carbon 22K ohms 1/4W
R348	ERDS2TJ152	Carbon 1.5K ohms 1/4W
R349	ERDS2TJ272	Carbon 2.7K ohms 1/4W
R350	ERDS2TJ821	Carbon 820 ohms 1/4W
R351	ERDS2TJ562	Carbon 5.6K ohms 1/4W
R352	ERDS2TJ100	Carbon 10 ohms 1/4W
R353	ERDS2TJ182	Carbon 1.8K ohms 1/4W
R354	ERDS2TJ222	Carbon 2.2K ohms 1/4W
R355,356	ERDS2TJ330	Carbon 33 ohms 1/4W
R357	ERDS2TJ181	Carbon 180 ohms 1/4W
R358	ERDS2TJ223	Carbon 22K ohms 1/4W
R359	ERDS2TJ750	Carbon 75 ohms 1/4W
R360	ERDS2TJ103	Carbon 10K ohms 1/4W
R361	ERDS2TJ273	Carbon 27K ohms 1/4W
R362	ERDS2FJ101	Carbon 100 ohms 1/4W
R363	ERDS2TJ821	Carbon 820 ohms 1/4W
R364	ERDS2FJ101	Carbon 100 ohms 1/4W
R365	ERDS2TJ152	Carbon 1.5K ohms 1/4W
R366	ERDS2TJ272	Carbon 2.7K ohms 1/4W
R367	ERDS2TJ821	Carbon 820 ohms 1/4W
R368	ERDS2TJ562	Carbon 5.6K ohms 1/4W
R369	ERDS2TJ100	Carbon 10 ohms 1/4W
R370	ERDS2TJ182	Carbon 1.8K ohms 1/4W
R371	ERDS2TJ222	Carbon 2.2K ohms 1/4W
R372,373	ERDS2TJ330	Carbon 33 ohms 1/4W
R374	ERDS2TJ181	Carbon 180 ohms 1/4W
R375	ERDS2TJ223	Carbon 22K ohms 1/4W
R376	ERDS2TJ750	Carbon 75 ohms 1/4W
R377-380	ERDS2TJ473	Carbon 47K ohms 1/4W
R413	ERDS2TJ391	Carbon 390 ohms 1/4W
R417	ERDS2TJ102	Carbon 1K ohms 1/4W
R418	ERDS2TJ102	Carbon 1K ohms 1/4W
R419	ERDS2TJ392	Carbon 3.9K ohms 1/4W
R421,423	ERDS2TJ243	Carbon 24K ohms 1/4W
R425	ERDS2TJ243	Carbon 24K ohms 1/4W
R428	ERDS2TJ562	Carbon 5.6K ohms 1/4W
R429	ERDS2TJ103	Carbon 10K ohms 1/4W
R430	ERDS2TJ153	Carbon 15K ohms 1/4W
R431	ERDS2TJ223	Carbon 22K ohms 1/4W
R432	ERDS2TJ303	Carbon 30K ohms 1/4W
R433	ERDS2TJ223	Carbon 22K ohms 1/4W
R434	ERDS2TJ303	Carbon 30K ohms 1/4W
R435	ERDS2TJ223	Carbon 22K ohms 1/4W
R436	ERDS2TJ303	Carbon 30K ohms 1/4W
VR1	YWH0651A4R7K	Variable Resistor 4.7K ohms
VR2	EVN8ACA00BE4	Variable Resistor 22K ohms
VR3	EVN8ACA00B13	Variable Resistor 1K ohms
VR4	YWH0651A4R7K	Variable Resistor 4.7K ohms
VR5	YWH0651A470	Variable Resistor 47 ohms

SYMBOL NO.	PART NO.	DESCRIPTION	
VR6,8	EVN8ACA00B13	Variable Resistor	1K ohms
VR11	YWH0651A470	Variable Resistor	47 ohms
VR12	EVN8ACA00B13	Variable Resistor	1K ohms
VR15	YWH0651A470	Variable Resistor	47 ohms
VR16	EVN8ACA00B13	Variable Resistor	1K ohms
VR20,21	YWH0651A470	Variable Resistor	47 ohms
VR43	YWH0651A4R7K	Variable Resistor	4.7K ohms
VR46	EWKENAS20B13	Variable Resistor	1K ohms
C1	ECEA1CU470	Electrolytic	47 F 16V
C2	ECEA1CU100	Electrolytic	10 µF 16V
C3,4	ECEA1CU470	Electrolytic	47 µF 16V
C5	ECQP1122JZ	Plastic	1200pF 100V
C6	ECQP1561JZ	Plastic	560pF 100V
C7	ECQP1221JZ	Plastic	220pF 100V
C8	ECCF1H181JC	Ceramic	180 pF 50V
C9	ECQM1H223JZ	Plastic	0.022 µF 50V
C10	ECEA1CU470	Electrolytic	47 µF 16V
C11	ECQB1H103JZ	Plastic	0.01 µF 50V
C12	ECQP1271JZ	Plastic	270 pF 100V
C13,14	ECQB1H103JZ	Plastic	0.01 µF 50V
C15	ECQP1101JZ	Plastic	100 pF 100V
C16	ECQB1H103JZ	Plastic	0.01 µF 50V
C17	ECQP1101JZ	Plastic	100 pF 100V
C18	ECEA1CSS221	Electrolytic	220 µF 16V
C19	ECEA1ASS101	Electrolytic	100 µF 10V
C20	ECEA1CSS222	Electrolytic	2200 µF 10V
C21	ECEA1CU101	Electrolytic	100 µF 16V
C22	ECEA1CU470	Electrolytic	47 µF 16V
C23	ECCF1H151JR	Ceramic	150 pF 50V
C24	ECCF1H470JC	Ceramic	47 pF 50V
C25	ECCF1H680JC	Ceramic	68 pF 50V
C26	ECCF1H101JC	Ceramic	100 pF 50V
C27	ECCF1H560JC	Ceramic	56 pF 50V
C28	ECCF1H101JC	Ceramic	100 pF 50V
C29	ECCF1H330JC	Ceramic	33 pF 50V
C30	ECCF1H470JC	Ceramic	47 pF 50V
C31	ECCF1H080CU	Ceramic	8 pF 50V
C32	ECEA1CU101	Electrolytic	100 µF 16V
C33-36	ECQPF1102JZ	Plastic	1000 pF 100V
C37	ECEA1CU470	Electrolytic	47 µF 16V
C38	ECEA1CSS221	Electrolytic	220 µF 16V
C40	ECET25R472SW	Electrolytic	4700 µF 25V
C42	ECEA1CU100	Electrolytic	10 µF 16V
C44	ECEA1CU470	Electrolytic	47 µF 16V
C45	ECCF1H101JC	Ceramic	100 pF 50V
C46	ECCF1H470JC	Ceramic	47 pF 50V
C47	ECCF1H181JC	Ceramic	180 pF 50V
C48	ECCF1H121JR	Ceramic	120 pF 50V
C49	ECCF1H680JC	Ceramic	68 pF 50V
C50	ECCF1H620JR	Ceramic	62 pF
C51	ECCF1H330JC	Ceramic	33 pF 50V
C52	ECCF1H240JR	Ceramic	24 pF 50V
C53	ECCF1H150JC	Ceramic	15 pF 50V
C55-58	ECQP1102JZ	Plastic	1000 pF 100V

SYMBOL NO.	PART NO.	DESCRIPTION	
C59	ECEA1CU470	Electrolytic	47 µF 16V
C60	ECEA1CU101	Electrolytic	100 µF 16V
C65	ECEA1CU470	Electrolytic	47 µF 16V
C66	ECEA1CSS222	Electrolytic	2200 µF 10V
C67	ECEA1CU470	Electrolytic	47 µF 16V
C68	ECCF1H101JC	Ceramic	100 pF 50V
C69	ECCF1H470JC	Ceramic	47 pF 50V
C70	ECCF1H181JC	Ceramic	180 pF 50V
C71	ECCF1H121JR	Ceramic	120 pF 50V
C72	ECCF1H680JC	Ceramic	68 pF 50V
C73	ECCF1H620JR	Ceramic	62 pF 50V
C74	ECCF1H330JC	Ceramic	33 pF 50V
C75	ECCF1H240JR	Ceramic	24 pF 50V
C76	ECCF1H150JC	Ceramic	15 pF 50V
C78-81	ECQP1102JZ	Plastic	1000 pF 100V
C82,87	ECEA1CU470	Electrolytic	47 µF 16V
C88	ECEA1CSS222	Electrolytic	2200 µF 10V
C89	ECEA1CU470	Electrolytic	47µF 16V
C90	ECCF1H101JC	Ceramic	100 pF 50V
C91	ECCF1H470JC	Ceramic	47 pF 50V
C92	ECCF1H181JC	Ceramic	180 pF
C93	ECCF1H121JR	Ceramic	120 pF
C94	ECCF1H680JC	Ceramic	68 pF 50V
C95	ECCF1H620JR	Ceramic	62 pF 50V
C96	ECCF1H330JC	Ceramic	33 pF 50V
C97	ECCF1H240JR	Ceramic	24 pF 50V
C98	ECCF1H150JC	Ceramic	15 pF 50V
C100-103	ECQP1102JZ	Plastic	1000 pF 100V
C104	ECEA1CU470	Electrolytic	47 µF 16V
C106	ECEA1CSS222	Electrolytic	2200 µF 10V
C109	ECQP1102JZ	Plastic	1000 pF 100V
C110	ECEA1CN100S	Electrolytic	10 µF 16V
C111	ECKF1H472ZF	Ceramic	4700 pF 50V
C112	ECEA1CN100S	Electrolytic	10 µF 16V
C113	ECEA1CU100	Electrolytic	10 µF 16V
C114-116	ECEA1CN100S	Electrolytic	10 µF 16V
C122	ECEA1CU470	Electrolytic	47 µF 16V
C123	ECQP1122JZ	Plastic	1200 pF 100V
C124	ECEA1CSS222	Electrolytic	2200 µF 10V
C125	ECEA1CU101	Electrolytic	100 µF 16V
C126	ECEA1CU470	Electrolytic	47 µF 16V
C127	ECEA1CSS222	Electrolytic	2200 µF 10V
C128	ECEA1CU101	Electrolytic	100 µF 16V
C129	ECQP1102JZ	Plastic	1000 pF 100V
C130	ECET25R472SW	Electrolytic	4700 µF 25V
C131	ECQM1H334KZ	Plastic	0.33 µF 50V
C132	ECQM1H104JZ	Plastic	0.1 µF 50V (TF)
C133	ECEA1CN100S	Electrolytic	10 µF 16V
C134	ECEA1CU101	Electrolytic	100 µF 16V
C145	ECCF1H181JC	Ceramic	180 pF50V
C147,149	ECCF1H201JC	Ceramic	200 pF 50V
C151	ECCF1H201JC	Ceramic	200 pF 50V
C153	ECCF1H390JC	Ceramic	39 pF 50V
C156,157	ECCF1H121JC	Ceramic	120 pF 50V
C158	ECCF1H560JC	Ceramic	56 pF 50V

SYMBOL NO.	PART NO.	DESCRIPTION	
C159	ECCF1H181JC	Ceramic	180 pF 50V
C160	ECCF1H151JR	Ceramic	150 pF 50V
C161	ECCF1H181JC	Ceramic	180 pF 50V
C162	ECCF1H151JR	Ceramic	150 pF 50V
C163	ECCF1H181JC	Ceramic	180 pF 50V
C164	ECCF1H151JR	Ceramic	150 pF 50V
C165	ECEA1CU471	Electrolytic	470 µF 16V
C166	ECCF1H101JC	Ceramic	100 pF 50V
L1	YWL5100J	Coil	10 µH
L2	YFL5470J	Coil	47 µH
SW5	YFSBU1024	Rotary Switch	
CF1	YWELF18D650W	Filter	
CN1-JM	EMCS0352M	3 pin Jack Male	
CN2-JM	EMCS0352M1R	3 pin Jack Male	
CN3-7-JM	EMCS0352M	3 pin Jack Male	
CN8-JM	EMCS0452M	4 pin Jack Male	
CN9-JM	EMCS0352M	3 pin Jack Male	
CN10-JM	EMCS0352M	3 pin Jack Male	
CN11-JM	EMCS0352M	3 pin Jack Male	
CN12-JM	EMCS0352M	3 pin Jack Male	
CN13-JM	EMCS0352M	3 pin Jack Male	
CN14-JM	EMCS0352M1R	3 pin Jack Male	
CN15-JM	EMCS0852M	8 pin Jack Male	
CN16-JM	EMCS0352M	3 pin Jack Male	
N16-JM	EMCS0352M	3 pin Jack Male	
CN18-JM	EMCS0352M1R	3 pin Jack Male	
CN19-JM	EMCS0352M1R	3 pin Jack Male	
CN20-JM	EMCS0352M1G	3 pin Jack Male	
CN23-JM	EMCS0652M	6 pin Jack Male	
CN27-JM	EMCS0452M	4 pin Jack Male	
E21	YVL437TM027	Terminal	
M14	YWV2SA0327A4	Mounting Angle	

MICROPROCESSOR BOARD

SYMBOL NO.	PART NO.	DESCRIPTION	
PCB2 (NLA)	o YWVKZRC36E2A	Printed Circuit Board Assy	
IC1	M5231L	IC	
IC2,3	TC4051B	IC	
IC4	YWTL7705CPB	IC	
IC5	M46015	IC	
IC6	NJM723	IC	
IC7	NJM2904D	IC	
Q5	2SB793A-RS	Transistor	
Q6,7	2SD636-Q	Transistor	
Q8,9	2SB793A-RS	Transistor	
Q10	2SD973A-RS	Transistor	
D1-5	MA165	Diode	
R16	ERDS2FJ331	Carbon	330 ohms 1/4W
R17	ERDS2TJ273	Carbon	27K ohms 1/4W
R18	ERDS2TJ561	Carbon	560 ohms 1/4W

SYMBOL NO.	PART NO.	DESCRIPTION	
R19	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R20	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R21	ERDS2TJ133	Carbon	13K ohms 1/4W
R22	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R23	ERDS2TJ102	Carbon	1K ohms 1/4W
R24	ERDS2TJ563	Carbon	56K ohms 1/4W
R25	ERDS2TJ561	Carbon	560 ohms 1/4W
R26	ERDS2TJ102	Carbon	1K ohms 1/4W
R27	ERDS2TJ332	Carbon	3.3K ohms 1/4W
R28,29	ERDS2TJ103	Carbon	10K ohms 1/4W
R30	ERDS2TJ302	Carbon	3K ohms 1/4W
R31	ERDS2TJ102	Carbon	1K ohms 1/4W
R32	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R33	ERDS2TJ332	Carbon	3.3K ohms 1/4W
R34	ERDS2TJ103	Carbon	10K ohms 1/4W
R40	ERDS2TJ822	Carbon	8.2K ohms 1/4W
R41,42	ERDS2TJ332	Carbon	3.3K ohms 1/4W
R43	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R45	ERDS2TJ103	Carbon	10K ohms 1/4W
R46	ERDS2TJ223	Carbon	22K ohms 1/4W
R47,48	ERDS2TJ103	Carbon	10K ohms 1/4W
R51,52	ERDS2TJ152	Carbon	1.5K ohms 1/4W
VR2,3	YFH0621A2R2K	Variable Resistor	2.2K ohms
VR4	EVM8AGA00B13	Variable Resistor	1K ohms
C6	ECEA1CU100	Electrolytic	10 µF 16V
C7	ECKF1H102KB	Ceramic	1000 pF 50V
C8	ECEA1HS010S	Electrolytic	1 µF 50V
C9	ECEA1AU101	Electrolytic	100 µF 10V
C11	ECQM1H104JZ	Plastic	0.1 µF 50V
C12-15	ECKF1H182KB	Ceramic	1800 pF 50V
C16	ECQM1H104JZ	Plastic	0.1 µF 50V
C17-26	ECKF1H182KB	Ceramic	1800 pF 50V
C27	ECQM1H104JZ	Plastic	0.1 µF 50V
C28	ECEA1HS010S	Electrolytic	1 µF 50V
C29	ECQP1151JZ	Plastic	150 pF 100V
C30	ECCF1H470JC	Ceramic	47 pF 50V
C32	ECEA1EU101	Electrolytic	100 µF 25V
C33	ECEA1EU100	Electrolytic	10 µF 25V (SU)
C34	ECKF1H102KB	Ceramic	1000 pF 50V
C35	ECEA1EU330	Electrolytic	33 µF 25V
C36	ECEA1EU101	Electrolytic	100 µF 25V
C37-39	ECEA1AU101	Electrolytic	100 µF 10V
C131	ECEA1AU470	Electrolytic	47 µF 10V
X1	YFCSB500EG	Crystal Oscillator	
J1	ERD25TC0	Jamper Resistor	
CN101-JM	EMCS1052M	10 pin Jack Male	
CN102-JM	EMCS0352M	3 pin Jack Male	
CN103-JM	EMCS0852M	8 pin Jack Male	
CN104-JM	EMCS0652M	6 pin Jack Male	
CN105-JM	EMCS0752M	7 pin Jack Male	
CN106-JM	EMCS0452M	4 pin Jack Male	
CN107-JM	EMCS0752M1G	7 pin Jack Male	
CN108-JM	EMCS0352M1R	3 pin Jack Male	

POWER BOARD

SYMBOL NO.	PART NO.	DESCRIPTION	
PCB3 (NLA)	YWVKZRC36E3A	Printed Circuit Board Assy	
IC1 ⚠	STK-711	IC	
IC2	STK-752	IC	
IC3	STK-761	IC	
Q1,2 ⚠	PC714	Photo Coupler	
D1	DS-442	Diode	
D2 ⚠	DBA-40G	Diode	
D3	ERD28-08	Diode	
D4 ⚠	S12KC20	Diode	
ZD1	GZA6.8Z	Diode	
SCR1 ⚠	DTA10E-R	Triac	
R1	ERF3SJ100	Wire Wound	10 ohms 3W
R2	ERD25FJ102	Carbon	1K ohms 1/4W
R3	ERD25FJ101	Carbon	100 ohms 1/4W
R4	ERF5ZXJ332	Wire Wound	3.3K ohms 5W
R5	ERG2ANJ104	Metal	100K ohms 2W
R6	ERG1ANJ150	Metal	15 ohms 1W
R7	ERD25FJ474	Carbon	470K ohms 1/4W
R8	ERD25FJ224	Carbon	220K ohms 1/4W
R9	YFKNY3W0.68	Wire Wound	0.68 ohms 3W
R12	ERD25FJ681	Carbon	680 ohms 1/4W
R14,15	ERD25FJ221	Carbon	220 ohms 1/4W
R16(R7')	ERD25FJ105	Carbon	1M ohms 1/4W
VR1	YF3321T1102	Variable Resistor	1K ohms
C1,2 ⚠	ECKDHS222MD	Ceramic	2200 pF 400V
C3 ⚠	ECQE2A104MW	Plastic	0.1 µF 250V
C5,6	ECET2DR221SW	Electrolytic	220 µF 200V
C7,8	YFCEUSM1C221	Electrolytic	220 µF 16V
C9 ⚠	ECKD3F221KB	Ceramic	220 pF 3KV
C11	YFCEUSM1H2R2	Electrolytic	2,2 µF 50V
C12-14	ECEA1EU332	Electrolytic	3300 µF 25V
C16	YFCEUSM1E222	Electrolytic	2200 µF 25V
C17	YFMDD22J103M	Ceramic	0.01 µF
C18 ⚠	ECKDHS222MD	Ceramic	2200 pF 400V
C19	ECCD2H181JC2	Ceramic	180 pF 500V
C21	ECKF1E104ZV	Ceramic	0.1 µF 25V
L1 ⚠	YFLF-6	Line Filter	
L2,3	LAL04KB4R7K	Mic Inductor	
L5	YFP1-6	Line Filter	
T1 ⚠	YFPHB50V007	Power Transformer	
F1 ⚠	XBA2C31ET0A	Current Fuse	3.15A 250V
E1 ⚠	YFM112	7 pin Terminal Block	
E2	YF85PN0819	Fuse Holder	
M17	YFV2KA0072B2	Power Chassis	
M18	YFV7SA0118A4	Terminal Board Label	
M19	YFSTK-011-8	Mounting Bracket for IC	
M20	YFTC-45A	Insulater Material A	
M21	YFV7MA0207A4	Fuse Rated Label	
M22	YFTC-30A	Insulater Material B	
M23	YFV5EA0167A3	Shield Cover	
M24	YWS-WJARB01	High Voltage Label	
M43	YWV2PA0226A4	Insulator	

FRONT PANEL BOARD

SYMBOL NO.	PART NO.	DESCRIPTION	
PCB4 (NLA)	YWVKZRC36J4A	Printed Circuit Board Assy	
IC1	YFNJM386D	IC	
IC2	MN4538B	IC	
Q5-7	2SD636-Q	Transistor	
Q8,9	2SD638-RS	Transistor	
Q10	2SD636-Q	Transistor	
D1	MA4082L	Diode	
D2	LN31-GCP	LED	
R1-4	ERDS2TJ103	Carbon	10K ohms 1/4W
R5,6	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R7	ERDS2FJ101	Carbon	100 ohms 1/4W
R8	ERDS2TJ102	Carbon	1K ohms 1/4W
R9	ERDS2FJ101	Carbon	100 ohms 1/4W
R10	ERDS2TJ102	Carbon	1K ohms 1/4W
R11,12	ERDS2TJ105	Carbon	1M ohms 1/4W
R23	ERDS2TJ223	Carbon	22K ohms 1/4W
R24	ERDS2TJ103	Carbon	10K ohms 1/4W
R25	ERDS2FJ101	Carbon	100 ohms 1/4W
R26	ERDS2TJ821	Carbon	820 ohms 1/4W
R27	ERDS2TJ471	Carbon	470 ohms 1/4W
R28	ERDS2TJ272	Carbon	2.7K ohms 1/4W
R29	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R30	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R31	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R32	ERDS2TJ100	Carbon	10 ohms 1/4W
R33	ERDS2TJ103	Carbon	10K ohms 1/4W
R34	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R35,36	ERDS2TJ330	Carbon	33 ohms 1/4W
R37	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R38,39	ERDS2TJ103	Carbon	10K ohms 1/4W
R40	ERDS2TJ561	Carbon	560 ohms 1/4W
R41	ERDS2TJ103	Carbon	10K ohms 1/4W
R42	ERDS2TJ391	Carbon	390 ohms 1/4W
R43	ERDS2TJ222	Carbon	2.2K ohms 1/4W
VR1	EVJ1KAS10B53	Variable Resistor	5K ohms
VR2-6	EVJ1KAP10B23	Variable Resistor	2K ohms
VR7	EVJ1KAP10B13	Variable Resistor	1K ohms
VR8	EVJ1KAS10B52	Variable Resistor	500 ohms
C1,2	ECEA1ASS101	Electrolytic	100F 10V
C3	ECEA1CK101	Electrolytic	100F 16V
C4	ECEA1HKS0R1	Electrolytic	0.1µF 50V
C5	ECEA1CU471	Electrolytic	470F 16V
C6,7	ECQB1H103JZ	Plastic	0.0µ1 F 50V
C8	ECEA1EK470	Electrolytic	47µF 25V
C9	ECEA1CKS100	Electrolytic	10µF 16V
C10	ECEA1HKSR22	Electrolytic	0.22µF 50V
C11	ECEA1CKS100	Electrolytic	10µF 16V
C12	ECEA1HKSR22	Electrolytic	0.22µF 50V
C13	ECEA1CK101	Electrolytic	100µF 16V
C15,16	ECEA1CKS470	Electrolytic	47µF 16V

SYMBOL NO.	PART NO.	DESCRIPTION
C17,19	ECEA1CK101	Electrolytic 100µF 16V
C20	ECQM1H104JZ	Plastic 0.1 µF 50V
C21	ECEA1AKS101	Electrolytic 100µF 10V
C22	ECEA1CKS100	Electrolytic 10µF 16V
CT1	TP11A12016	Trimmer Capacitor
SW1	YWMTK7203PG	Toggle Switch
SW2	YWMTK7101PG	Toggle Switch
SW3	YWMTK7205PG	Toggle Switch
SW4	YFSSJ312AN	Slide Switch
SW5-7	YWMTK7101PG	Toggle Switch
CN1-JM	EMCS0352M	3 pin Jack Male
CN2-JM	EMCS0852M	8 pin Jack Male
CN3,4-JM	EMCS0252M	2 pin Jack Male
M6	YWV2SA0328A4	Mounting Angle G for Switch
M9	YWV2SA0329A4	Mounting Angle H for Switch
M37	YWV2NA0165A4	LED Spacer

CONNECTOR BOARD

SYMBOL NO.	PART NO.	DESCRIPTION
PCB5 (NLA)	YWVKZRC36P5A	Printed Circuit Board Assy
CN41	YWJMBP2532FD	32 pin Connector
CN1-JM	EMCS0252M	2 pin Jack Male
CN2-JM	EMCS0552M	2 pin Jack Male

FILTER BOARD

SYMBOL NO.	PART NO.	DESCRIPTION
PCB6	o YWVRZRC36P6A	Printed Board
R1	ERC12GJ474	Solid 470K ohms 1/2W
C1	ECQU2A474MP	Plastic 0.47 µF 160V
CF1	YWELF18D650W	Filter
E1	YVL437TM027	Terminal

ACCESSORY PARTS/PACKAGING PARTS

SYMBOL NO.	PART NO.	DESCRIPTION
CN10	YFCNR-1204P	4 pin Connector
M50-1	YWB350-HM01	Lack Angle A
M50-2	YWU-L88HA	Lack Angle B
M51	o YWV8QA1384AN	Operating Instructions
M56	XZB26X40C05	Polyethylene Bag
M57	XZB45X63C05	Polyethylene Bag
M58	YWT050803	Polyethylene Bag
M59	YWT15X20C03	Polyethylene Bag
M60	YWT20X35C03	Polyethylene Bag
M61	o YFV9CA0115AN	Packaging
M62	YWV8FA0141A3	Packaging Label

LENS CONVERSION CABLE WV-LC10

MISCELLANEOUS

SYMBOL NO.	PART NO.	DESCRIPTION
CN1	R01-06J9-8F	8 pin Connector
CN2	HR10A10P12P	12 pin Connector

ACCESSORY PARTS/PACKAGING PARTS

SYMBOL NO.	PART NO.	DESCRIPTION
M1	YW004X80X300	Polyethylene Bag
M2	YW55X245X32	Packaging

S-VHS CABLE WV-CA38

MISCELLANEOUS

SYMBOL NO.	PART NO.	DESCRIPTION
CN1	o SRCB1A1614S	14 pin Connector
CN2	o YWTPX345501A	DIN Plug
CN3	o YWVM20120A0	Pin Plug
CN4	o YWVM20130B0	RCA Plug

ACCESSORY PARTS/PACKAGING PARTS

SYMBOL NO.	PART NO.	DESCRIPTION
M1	o YWV8DA0811A4	Packaging
M2	YWT26X40C03	Polyethylene Bag

VTR CABLE WV-CA32A14

MISCELLANEOUS

SYMBOL NO.	PART NO.	DESCRIPTION
CN1	o JMSP2532F-22	32 pin Connector
CN2	o SRCB6A16-14P	14 pin Connector

ACCESSORY PARTS/PACKAGING PARTS

SYMBOL NO.	PART NO.	DESCRIPTION
M1	o YWV8DA0431A4	Packaging

SYMBOL NO.	PART NO.	DESCRIPTION
CARRYING CASE WV-CC37		
MISCELLANEOUS		
M1	o YWV5DA0197A4	Main Label
M2	o YWF50-KEY	Key
M3	o YWV8QA1380AN	Operating Insturacctions
M4	YWT80X90X1	Polyethylene Bag
M5	o YWV9CA0985AN	Packaging
M6	o YWV8FA0141A3	Packing Label

SYMBOL NO.	PART NO.	DESCRIPTION
CARRYING CASE WV-CC38		
MISCELLANEOUS		
M1	o YWV7QA1373A4	Main Label
M2	YWV8RA0163B4	Caution Label A
	YWV8RA0186A4	Caution Label B
M3	o YWV8QA1382AN	Operating Insturacctions
M4	YWT100X120X1	Polyethylene Bag for Carring Case
M5	XZB26X40C05	Polyethylene Bag for Printed
M6	o YWV9CA0516BN	Packaging
M7	YWV8FA0142A3	Packing Label

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